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THESIS

THE ORIGIN AND EVOLUTION
OF U.S. NAVAL
STRATEGIC NUCLEAR POLICY TO 1960

by

Harold C. Kreitlein

December 1986

Thesis Advisor K.M. Kartchner

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T231257

SECURITY CLASSIFICATION OF THIS PAGE

REPORT DOCUMENTATION PAGE

1a REPORT SECURITY CLASSIFICATION UNCLASSIFIED	1b RESTRICTIVE MARKINGS
2a SECURITY CLASSIFICATION AUTHORITY	3 DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release; distribution is unlimited.
2b DECLASSIFICATION/DOWNGRADING SCHEDULE	
4 PERFORMING ORGANIZATION REPORT NUMBER(S)	5 MONITORING ORGANIZATION REPORT NUMBER(S)
6a NAME OF PERFORMING ORGANIZATION Naval Postgraduate School 6b OFFICE SYMBOL (If applicable) 56	7a NAME OF MONITORING ORGANIZATION Naval Postgraduate School
6c ADDRESS (City, State, and ZIP Code) Monterey, California 93943-5000	7b ADDRESS (City, State, and ZIP Code) Monterey, California 93943-5000
8a NAME OF FUNDING/SPONSORING ORGANIZATION 8b OFFICE SYMBOL (If applicable)	9 PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER
8c ADDRESS (City, State, and ZIP Code)	10 SOURCE OF FUNDING NUMBERS PROGRAM ELEMENT NO / PROJECT NO / TASK NO / WORK UNIT ACCESSION NO

11 TITLE (Include Security Classification)
THE ORIGIN AND EVOLUTION OF U.S. NAVAL STRATEGIC NUCLEAR POLICY TO 1960

12 PERSONAL AUTHOR(S)
Kreitlein, Harold Chris

13a TYPE OF REPORT	13b TIME COVERED	14 DATE OF REPORT (Year, Month, Day)	15 PAGE COUNT
Master's Thesis	FROM ____ TO ____	1986 December	140

16 SUPPLEMENTARY NOTATION

17 COSATI CODES			18 SUBJECT TERMS (Continue on reverse if necessary and identify by block number)
FIELD	GROUP	SUB-GROUP	U.S. Navy, Strategic Nuclear Policy, Massive Retaliation

19 ABSTRACT (Continue on reverse if necessary and identify by block number)

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The growth of the Soviet Union as a threat to world peace, and interservice rivalry over roles and missions

20 DISTRIBUTION/AVAILABILITY OF ABSTRACT ☒ UNCLASSIFIED/UNLIMITED ☐ SAME AS RPT ☐ DTIC USERS	21 ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED
22a NAME OF RESPONSIBLE INDIVIDUAL Prof. K.M. Kartchner	22b TELEPHONE (Include Area Code) 408-646-3483 22c OFFICE SYMBOL 56kn

DD FORM 1473, 84 MAR 83 APR edition may be used until exhausted
All other editions are obsolete

SECURITY CLASSIFICATION OF THIS PAGE

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The Origin and Evolution of U.S. Naval Strategic Nuclear Policy to 1960

by

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Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF ARTS IN NATIONAL SECURITY AFFAIRS

from the

NAVAL POSTGRADUATE SCHOOL
December 1986

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ACKNOWLEDGEMENTS

I would like to thank Professor Kartchner and Professor Parker for their valuable guidance and critical assistance in the preparation of this thesis, and Commander James Tritten who tempered my exuberance with wisdom.

I. INTRODUCTION

The United States Navy has always had a very particular manner in its approach to new and innovative ideas. Some might even call the traditional naval approach dogmatic and short-sighted. Senior naval officers protested the introduction of steam propulsion, torpedoes, rifled guns and the screw propeller. They fought against the establishment of the Office of Naval Intelligence, the installation of electric lights and abolishment of flogging. [Ref. 1: p. 5] Rather than rushing headlong into unexplored pathways of naval development, the Navy has very methodically evaluated, analyzed, experimented and discussed every new development slowly and painstakingly prior to trial and acceptance [Ref. 2: p. 77].

Perhaps this approach developed in part from the Navy's historically precarious position in the U.S. defense community. The President and Congress, supported by the public at large, have always been quick to cut defense spending for the armed forces in times of peace. The historical reluctance of democracies to adequately support a peacetime military defense was particularly acute in the case of the Navy. Throughout America's history, the Army was actively engaged in opening the western frontier even in times of peace. The Navy, on the other hand, was generally left without a visible mission except in times of war. Subsequently, it was a particularly attractive target for budget reductions. After every conflict, the U.S. leadership was anxious to cut the Navy's budget, reduce the fleet and rely upon diplomacy to achieve national goals. [Ref. 3: p. 260].

Secondly, the single unit cost of Navy ships has always been so great and so difficult to justify that there is little room for error in choosing and building the right system for the job. The Navy could not build an inexpensive prototype to evaluate and perhaps discard if it did not meet expectations. Once a new ship is built it must serve for years regardless of its possible inadequacies. These two factors have no doubt forced the Navy to be cautious at spending limited resources on unproven systems and hesitant at pursuing dubious ventures. It has been wiser to preserve and protect what one has than to draw unwanted scrutiny with risky and speculative ventures. Subsequently, the Navy has been very conservative in its modernization programs.

A third reason for the slow pace of naval development has undoubtedly been parochialism. The first two factors served to amplify the intransigent influence of the third. The struggle of naval aviation to establish itself is a dramatic example. Battleship sailors, who had struggled to build what existed saw little reason to risk future gains on unproven ideas. The total extent of this partisan effect is impossible to determine but was surely significant.

One should be careful, however, not to exaggerate the effect of this conservatism. Several factors, unique to the Navy, tended to mitigate the effects of such things as parochialism and intransigence. After the turn of the century, the Navy did find itself exploring new avenues of development and soon adopted much of what it found to be valuable. The technological advances of the industrial revolution prodded the Navy into facing the new developments of the machine age.

One of the factors that mitigated the Navy's conservatism was the shear variety of naval activity brought on by the integration of the submarine and airplane into traditional naval forces. The tremendous gulf that separated the specialties--surface, subsurface, and airborne Navy--could have produced chasms in the service, divided the officer corp and destroyed naval unity. On the contrary, it strengthened the Navy, and tended to cultivate a more receptive attitude by the service to new ideas and developments. Naval officers were assigned to their specific branches of the Navy, but were not allowed to forget that above all else they were naval officers and only secondly, fliers, submariners or battleship sailors. As Admiral Moffett testified before the Committee on Military Affairs in 1926:

> . . . we feel that a flyer who operates in conjunction with the fleet and does not understand what is taking place on the surface and subsurface vessels is a nuisance and menace to us [Ref. 4: pp. 129-130].

They were each to aspire to "command at sea" and eventual command over all naval specialties [Ref. 5: p. 23]. In this regard they clearly contrasted with both Army and Army Air Corp officers who tended to reject generalization, concentrating instead upon their individual specialties. This contrasting attitude spared the Navy the division it produced in the Army--resulting in the eventual break-away of the Air Force. [Ref. 2: p. 6]

Additionally, the "unified diversity" that characterized the Navy prompted naval officers to think in terms of unified strategy, in seeing the "big picture" and in rejecting

overly simplified explanations of how to meet the postwar threat. World War II in the Pacific was recognized as having been won by a balanced fleet of forces--aircraft, submarines, surface ships and Marines. This balance of forces was perceived to be necessary in any combat situation and necessarily required the cooperation of all available specialties. One force was not to be arbitrarily restricted in its operations to protect the parochial interests of another. This unified approach was apparently rejected by the Army Air Corp which was inclined toward an entirely different interpretation of what won the war.

From a historical legacy of conservatism, the Navy emerged from the war with a much broader outlook toward strategy and modernization. The naval officer corp was highly educated, technically proficient and confident of the Navy's capability to handle change and technological innovation. However, there were natural limits to this open-mindedness.

The sudden shock of the atomic bomb blast over Alamogordo, and then twice again over Japan forced the Navy to step back and re-evaluate itself. The total involvement required by the war and the secret development of the atomic bomb caught the Navy without a framework of understanding from which to accept or reject the bomb as a naval weapon. The struggle to establish a framework with which to view the bomb, a nuclear policy on its employment in the maritime environment and the associated struggle to obtain the assets to employ a nuclear strategy drew the Navy into a controversy that drained its postwar esteem and threatened to reduce the service to a level far removed from its former stature.

Central to the post-WWII debate, both within and outside the Navy, over adopting the nuclear bomb to traditional military roles was the aircraft carrier and naval aviation itself. Each service desperately tried to integrate nuclear weapons into its primary mission not only to increase its own effectiveness as a fighting force, which could have occurred rather painlessly, but also to preserve itself from the severe postwar budget cuts under the uncompromising direction of Harry Truman. For the Navy that meant trying to find a nuclear role for the aircraft carrier which had risen to the pinnacle position as the weapon of choice in U.S. naval strategy.

Captain Alfred T. Mahan, the father of U.S. naval strategy, defined two propositions on the nature of naval warfare that already fit well with the traditional naval attitude toward warfare in general. First, Mahan said that sea lines of communication (SLOC's) were always weak points in an enemy's defenses. The

projection of naval power should therefore be oriented toward sea control. Secondly, Mahan taught that the fleet should direct it forces against the enemy's ships and fleet. By defeat of the enemy fleet the sea lines of communications could be preserved for use by friendly forces. [Ref. 6: p. 1272] Both of these concepts harmonized with traditional imperialist naval philosophy in that both were vital to establish "command of the sea" promoting unhindered trade and colonial expansion [Ref. 7: p. 107].

After some procrastination, the Navy integrated the aircraft carrier into the role of sea control that would surely have pleased the venerable Captain Mahan. The Navy finished World War II with twenty-six *Essex* class, eight *Independence* class, seventy-eight escort carriers and three *Midway* class carriers for a total of 115 carriers that gave the United States undisputed "sea control" throughout the world's oceans [Ref. 8: p. 346].

After the successes of the Navy in World War II, one could not talk about naval strategy without talking about the aircraft carrier. Naval strategy *was* the aircraft carrier. However, while some mourned the relative demise of the battleship, the evolution in naval strategy brought on by the adoption of the aircraft carrier retained a good deal of traditional naval strategy. Sixteen-inch guns had been replaced by aircraft which had extended the range of naval power projection from 25 miles to almost any land point [Ref. 3: p. 261]. In many respects the military objectives of the aircraft carrier were synonymous with the military objectives of the battleship navy--sea control and power projection against the enemy fleet. And, despite the potential of strategic bombing as expounded by the Army Air Corp, the Navy generally rejected it as anything more than just another capability and not as the single determining strategy [Ref. 2: p. 77].

Although after twenty-five years the aircraft carrier did come to dominate the fleet, the transition was not an easy one and the difficulties for early proponents of naval aviation were significant; no less so were the difficulties of integrating nuclear weapons into a naval strategy based on the carrier. A good deal of the difficulties were fabricated by the other services who sought to aggrandize themselves at the Navy's expense. The Navy interpreted the lessons of World War II as erasing any doubts of the carrier's value whether in a conventional role or a new nuclear role. The other services, particularly the Army Air Corp which was desperate for independence, felt the lessons of the war indicated otherwise. The difference of opinion among the services over the role of naval aviation and the Air Corp's drive for autonomy provided the

foundation for the controversy that erupted after the war and engulfed the Navy. In this less than placid environment the Navy struggled to integrate nuclear weapons into its traditional maritime strategy.

The purpose of this study is to prove the thesis that the Navy's efforts to integrate the atomic bomb into naval strategy involved much more than merely developing a weapons system and deploying it throughout the fleet. Rather it involved a difficult and frustrating process whereby the Navy attempted to define the role of the atomic bomb in naval warfare within the context of a greater and often conflicting national effort to come to grips with the military and political implications of nuclear weapons for American foreign policy.

II. THE EVOLUTION OF PRE-NUCLEAR NAVAL STRATEGY

A. THE BIRTH OF NAVAL AVIATION

U.S. naval aviation must credit some of its humble beginnings to a civilian, Eugene Ely, who piloted a Glen Curtiss biplane down a sloping wooden ramp built upon an American light cruiser, the USS *Birmingham*, which was sitting at anchor off Hampton Roads near Norfolk, Virginia. It would take another two years and the British navy to make the first take off from a ship underway which occurred in July of 1912 [Ref. 8: p. 29]. However, from Ely's first flight from a naval ship, naval aviation attracted supporters who struggled through significant opposition to finally establish a niche for the fledgling community in the Navy.

What U.S. naval strategy existed prior to the introduction of aircraft into the fleet can be credited almost entirely to Captain Alfred Mahan. Underlying the influence of Mahan's doctrine on naval strategy was the traditional U.S. inclination toward isolationism mixed with nineteenth century imperialism. The battleship navy had sailed around the world only to tie up in port to wait for future hostilities [Ref. 9: p. 65]. After war was declared and following Mahan's strategy, upon identifying the enemy, the fleet would sail out to battle on the high seas where one big decisive battle would determine the victor, or surround his ports and defeat him through blockading actions.

Against this well engrained strategy, naval aviation had an uphill struggle for recognition. Army aviation had become very vocal and made tremendous demands upon its parent service. Subsequently, it had extremely rough going, encountered tremendous obstacles and yet, through the personal sacrifice of aviation proponents, made notable progress toward its ultimate goal--autonomy. Naval aviation was a good deal more passive and for reasons already stated did not seek autonomy. Nevertheless, despite slower progress, naval aviation did eventually achieve preeminence.

In contrast to the Army which allowed its air force to fly over enemy territory on its "own" pursuits, the Navy demanded from the beginning that naval aviation support the fleet. Subsequently, the Navy concentrated on the use of seaplanes as reconnaissance platforms to seek out the enemy. The development of the aircraft carrier was not vigorously pursued but left to the British who seemed somewhat more

interested. When the British entered World War I in 1914, the U.S. Navy owned only twelve aircraft, all of them seaplanes or flying boats. However, by the end of the war, the Navy owned 2,107 aircraft of all varieties as well as 15 airships. The Navy's primary aviation-related responsibility in the War was that of conducting anti-U-boat patrols achieving the first successful sinking on 25 March 1918 [Ref. 8: p. 117].

During the war the Navy restricted its bombing activities to naval targets and enemy airship fields that threatened the fleet. However, there were plans to include the Navy in the strategic bombing of Germany had the war continued. [Ref. 8: p. 118]

After the war, slow progress toward establishing a truly effective aviation arm in the Navy continued. The USS *Langley* was commissioned and with the support of senior naval officers who had seen both the U.S. and Royal navies at work in the war, naval aviation was accorded more respectability.

B. THE STRUGGLE OF NAVAL AVIATION TO SURVIVE

Although some progress had been made toward expanding its role, naval aviation nevertheless still found itself struggling to survive. Ironically, it was not within the Navy but outside that the struggle took place. And, it was during this struggle to preserve naval aviation from enemies outside the Navy that the foundations of a much greater struggle yet to come were laid. The controversy over roles, missions, and strategy that would engulf the Navy 25 years later as it came to grips with nuclear weapons began with this struggle. One particular incident can possibly be identified as the beginning.

After World War I, as after the Revolutionary War, the Navy was once again threatened with dis-establishment. While debate raged over whether the United States even needed a navy, the Navy joined the Army to mount an offensive. The surrendered German battleship *Ostfriesland* and submarine, *U-117*, were positioned at anchor in Chesapeake Bay and sunk by aerial bombings in July 1921. The German destroyer *G-102* and cruiser *Frankfurt* followed them to the bottom a few days later under the bombing of seventy-four Army and Navy aircraft.

The Navy participated in the tests for their scientific and military value. The Navy's goals were to demonstrate the effectiveness of aerial bombing against ships as well as the effectiveness of compartmentation for ship survival from aerial bombardment [Ref. 8: p. 124]. The Navy, having a broader outlook than the Army Air

Service,[1] had no intention of denigrating the value of surface ships, but merely wanted to demonstrate the potential value of naval aviation. Surface ships could be protected with compartmentation and were still integral to a balanced naval force. The primary goal of the Navy after all was to demonstrate the necessity of the surface navy as well as naval aviation to the nation's defense.

In contrast to the objectives of the Navy, the Army Air Service wanted the tests to demonstrate the superiority of air power over seapower [Ref. 7: p. 96]. By demonstrating the ability of aircraft to sink a battleship, however contrived the circumstance,[2] the Air Service hoped to provide legitimacy for their campaign to separate themselves from the Army and set up a separate service. They saw the tests as one more example of the supremacy of air power and its revolutionary capabilities. Adherents to this philosophy were led by the arch-proponent of air power, General "Billy" Mitchell.

The Army-Navy cooperation in the bombing demonstration was actually quite ironic considering what the Army really hoped to achieve from the tests. The Navy cooperated in the tests with the understanding that they were to promote the mutual support of aviation within *both* services. The Navy, while fully knowledgeable of Mitchell's efforts to divorce the air service from the Army, considered it an internal affair for the War Department and the Army, and of no significant concern for the Navy or naval aviation, both of whom were satisfied with their relationship. The air service, however, attacked the Navy and its aviation branch more than it did its own service in an attempt to provide justification for its case. [Ref. 3: p. 42]

Mitchell chose to attack the Navy for two reasons. First, he believed that by demonstrating the effectiveness of an aircraft in a bombing attack against a battleship he could strengthen the case of aviation in general and further his goal of establishing a separate service. The foundation for this lay in his honest conviction that indeed air power was superior to sea power and that there was no longer a real future for the Navy. Navies were suddenly vulnerable to a force faster and more mobile than themselves--aircraft. Because naval vessels (as well as land targets) were at the apparent mercy of aircraft bombs, navies (and land armies) became obsolete. Even before there had been any substantive strategic bombing, Mitchell and others in the

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[1]The name Army Air Service was changed to Army Air Corp as part of the Army Air Corp Act of 1926.

[2]The ships were unarmed, adrift and unable to maneuver which some criticized as invalidating the tests.

Army Air Service were already committed to the primacy of aerial bombing as the preferred strategy for winning war [Ref. 1: p. 171]. Mitchell had visited Major General Sir Hugh Trenchard, commander of the Royal Flying Corp in Britain, where Mitchell adopted Trenchard's philosophy of strategic bombing. This strategy held that the airplane was an offensive and not a defensive weapon and as such was more effective operating independently of other forces, far beyond the battle lines and against the core of enemy resistance--as a strategic weapon [Ref. 10: p. 250]. By adopting this philosophy Mitchell instilled a strategy upon the Air Corp that would later come to dominate the entire national defense effort.

Mitchell's whole philosophy on the character of aviation and strategic bombing, confirmed in his mind the logic of his second objective in attacking the Navy which he hoped the bombing test would support--to remove naval aviation from the Navy and integrate it with Army aviation into a new service *The Admiral's Lobby*. [Ref. 7: p. 29]. He believed that the U.S. Navy was obsolete, that it did not need an air force, and that what it did have would be more effective if under a unified command with army aviation--as a new and separate service.

The Navy, which regarded naval aviation as an integrated element of a combined naval force, rejected the idea that any one strategy like strategic bombing could invalidate traditional military strategies and much less naval strategy. The development of an aerial bombardment capability for naval aviation expanded the striking force of the Navy but certainly did not invalidate the value of other branches of the naval service and their contribution to an overall defensive and a warfighting capability. The Navy, while not yet ready to commit to naval aviation the preeminent position it achieved during World War II, did hold it as essential to the mission of the Navy and was not inclined to tolerate any moves that would have it removed.

If the Navy had fully understood Mitchell's ultimate objectives in his drive for a separate service, one can doubt if it would have cooperated so readily in the bombing tests. Ultimately, the Navy did oppose Mitchell and was quite successful in frustrating his plans. Mitchell eventually grew so impatient with inpediments to the establishment of an independent air force that he resorted to aberrant behavior that brought on a court-martial and his departure from the Army Air Service [Ref. 8: p. 124].

The Navy joined in the move to hinder Mitchell primarily in an effort to stave off attempts to divorce aviation from the Navy under a 'Unity of the Air' policy which would combine it with the Army Air Service in an independent air force. However, no less objectionable to the Navy was Mitchell's strategic doctrine [Ref. 3: p. 42].

The Navy had always fancied itself the first line of defense against aggression. Mahan clearly proved the vital role of the navy in a nation's defense. The U.S. Navy would be the first to sally forth and confront an enemy who would necessarily be coming across the seas in his attack. Mitchell threatened this role by claiming strategic bombers could move more quickly and be more effective in providing the first line of defense against an enemy. This difference in opinion on a role vital to the Navy and essential to the Army Air Service provided the grounds for the first skirmish between the services.

C. THE FIRST CONFLICT OVER ROLES AND MISSIONS

Until the advent of aircraft, the dividing line of responsibilities between the Navy and the Army was rarely disputed. It was generally accepted that the only area for contention could be in the shared responsibility for coastal defense. In that regard conventional wisdom held that the Navy controlled all operations beyond the range of Army coastal batteries. The adoption of aircraft by both services with its longer range blurred the fine line that divided the responsibilities of both services and soon brought on a dispute. [Ref. 4: p. 70]

Starting in 1921, General Mitchell and the Chief of the Air Service, Major General Patrick, initiated a campaign to divorce the coastal defense responsibilities from the Navy and give all such responsibilities to the Army Air Service [Ref. 11: p. 34]. Patrick reasoned that naval aviation should be following the fleet and would not logically be available to provide coastal defenses. Mitchell was more specific. He had formulated a strategy to provide complete control of coastal defenses by the air service.

- Reconnaissance by air to locate approaching air forces and surface fleets.
- A series of sky battles to determine control of the air.
- After control was attained, direct attack on enemy vessels. [Ref. 11: pp. 33-34]

Mitchell's strategy, true to form, contained no provisions for naval aviation. The Navy and naval aviation were to be removed entirely from coastal defense and restricted to their responsibilities of meeting the enemy fleet offensively on the high seas. Mitchell's efforts were taking place despite the conclusions of the Aeronautical Board in 1917 which held that the responsibility of coastal defense should be *shared.* [Ref. 11: p. 35]

Nevertheless, Mitchell pursued the matter, until General Pershing established another board under Brig. Gen. Charles E. Kilbourne which predictably concluded the matter differently. The Kilbourne board determined that shared responsibility was unwise and that the Army should control coastal defense. [Ref. 11: p. 23]

General Patrick was particularly concerned with the increasing number of land-based naval aircraft. He petitioned the War Department to transfer all land-based aircraft to the Army Air Service in the interest of "economy and security". Furthermore, he wanted the Army Air Service charged with responsibility for all aerial operations originating from land. Mitchell added that the Navy should be restricted from operating aircraft within 200 miles of land.

Even the War Department became concerned when in 1928 the Navy began stationing torpedo planes ashore in Hawaii and Panama [Ref. 12: p. 53]. This forced the Navy into assenting to another board which resulted in an ambiguous ruling that still allowed naval aviation shore-based aircraft if they were for scouting and patrol. The result disappointed the Army and allowed the Navy to continue its land-based expansion. It was aided by Rear Admiral William A. Moffett whose struggles with the Army Air Service extended into the halls of Congress where he defended the Navy's coastal defense role as "essentially naval operations".

When Douglas MacArthur became Chief of Staff in 1930, he sought out the Chief of Naval Operations, Admiral William V. Pratt and demanded that the matter be settled once and for all. The MacArthur-Pratt agreement, though attempting to be specific, left too much to interpretation to work by itself. Admiral Pratt supported the Army's assertions over rightful control of coastal defense. Pratt agreed only because he did not want to spend scarce funds on what he considered a secondary mission. [Ref. 12: pp. 55-56] He was concerned about the striking power of the fleet, which included naval aviation, and being able to defeat the enemy at sea. He subsequently renamed all shore naval air establishments fleet air stations, and ensured they were controlled by fleet commanders. Shore-based aircraft were expected to deploy with the aircraft carriers or seaplane tenders. He did not feel that peacetime funding could maintain both missions, supporting the fleet and coastal defense, adequately.

Naval aviation was disgusted with the agreement but found it did not have to wait long for its revenge. In August of 1931 an old freighter, *Mount Shasta* was donated to the Air Corp for target practice. The ship was towed 55 miles out to sea to be sunk. The Army sent out nine bombers on the first day who failed to locate the

ship. On the second day, although located, the bombers failed to sink the ship with their 300-pound bombs. It was finally sunk by the Coast Guard.

The Navy made the most of the affair and cast as much doubt as possible on the Army's effort to actually accomplish its new coastal defense role. The bickering between the services continued unabated. Meanwhile both services were involved in the development of land-based coastal defense bombers. The Army, convinced it needed to address the possibility of a sea-borne invasion [Ref. 10: p. 269], developed the B-17 and B-18 [Ref. 13: pp. 42-43], while the Navy, under the direction of Admiral King, chief of the Bureau of Aeronautics, purchased long range flying boats.

The Army complained that the Navy was violating the MacArthur-Pratt agreement and demanded another board. Subsequently, the Navy agreed once again that the Army could control coastal defense while reserving for itself the legitimate role of anti-submarine warfare and any other activity beyond the close-in area of the coast. This allowed the Navy free use of long-range seaplanes which, while having the primary function of supporting the fleet, could still operate beyond the immediate coastline. With this minor concession the conflict came as close to being settled as it possibly could have--leaving both services still far less than satisfied. Even up until Pearl Harbor there never existed a clear cut system of joint Army-Navy coastal defense [Ref. 13: p. 31].

D. THE EVOLUTION OF CONTEMPORARY NAVAL STRATEGY BEGINS

The rise of naval aviation and the integration of the aircraft carrier into the fleet both supported and challenged the theories of traditional naval strategy. While the traditional strategy of engaging the enemy fleet on the high seas was complemented by the capabilities of the aircraft, the role of the battleship in those engagements was seriously challenged. Additionally and perhaps more revolutionary was the introduction of a strategic capability into the Navy made possible by the ability of naval aircraft to project naval power far past the historical limits of naval gunnery deep into enemy territory. This evolution began with a rather innocuous display of strategic thinking utilizing naval aviation against a land target.

The popular idealism that promoted the formation of the League of Nations after World War I also spawned what proved to be futile efforts to limit naval armament. The Washington Naval Treaty placed limits on the tonnage, armament and number of ships of the participating nations. As a signatory to the Treaty, the U.S. was forced to

abort the construction of two battle-cruisers then being built. [Ref. 10: p. 247] However, the Treaty did allow uncompleted ships to be converted to aircraft carriers, a course of action approved by Congress on 1 July 1922. Both ships, *Saratoga* and *Lexington*, were completed and commissioned in 1927 as CV-3 and CV-2 respectively. While preparing for deployment with the fleet, the first pilot to take off and land on the *Saratoga* was Commander Marc A. Mitscher who as a Vice Admiral would fly his flag on a second *Lexington* during World War II [Ref. 8: p. 138].

After preparations for deployment had been completed, both ships were assigned to opposing sides in a fleet exercise called Fleet Problem IX to be conducted off the Pacific side of Panama in 1929. In this exercise the use of carriers as the primary fleet striking force began to displace what had been their traditional role as supporting units to the battleship.

The Blue fleet which included the *Lexington* was tasked with the defense of the Canal. The Black fleet with the *Saratoga* was to attack from the West. The *Saratoga* embarked Commander Air Battle Force, Rear Admiral J.M. Reeves, a brilliant tactician who although not an aviator himself was an extremely strong proponent of naval air power, and her executive officer, Commander Whiting, who had previously commanded the *Langley*. Reeves, having formulated ideas on the striking power of naval aircraft, requested permission from the commander-in-chief of the Black Fleet, to detach from the fleet and operate independently against the Blue Fleet. Permission was granted and the *Saratoga* sailed south 100 miles to anchor at the Galapagos Islands.

Meanwhile Blue and Black Fleets made contact upon which the *Lexington* was promptly declared heavily damaged by gunfire from the opposing battleships. The Blue Fleet was perplexed at not finding the *Saratoga*. The exercise was only to last three days, 23 to 26 January, to end at 0800 on the 26th. The *Saratoga* and her destroyer escorts had still not been sighted by noon on the 25th, the last full day of the exercise. Finally, on the evening of the 25th, after falling in behind what was mistaken to be the *Lexington*, the Blue Fleet battleship, *Detroit*, was declared by the *Saratoga*[3] to have been sunk by her 8 inch turrets after 60 minutes of fire. The *Detroit*, despite the exercise umpire's agreement with the call, radioed the *Saratoga's* position to the Blue Fleet.

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[3]The *Saratoga* had returned to the exercise area under the cover of darkness the night before.

At 0400 on the morning of the 26th, the *Saratoga* turned into the wind and launched eighty aircraft which were directed to strike the Canal then attack any battleships encountered while returning to the ship. The aircraft passed over the target at 0600 catching the Army defenders completely by surprise. AA guns were covered by tarps and guncrews were at breakfast. The Army Air Corp at the adjoining field, Albrook Field, sent up planes to attack the "carrier". Unfortunately, they encountered and "sank" their own Blue Fleet carrier, the *Lexington.*

Meanwhile, the *Saratoga* steamed into the Panama Gulf and recovered her aircraft. She immediately came under fire from the remaining Blue forces, who declared her sunk. Unfortunately the damage had already been done and the point made. The *Saratoga* had accomplished what the Black Fleet battleships had not been able to do--successfully attack the exercise target. By her actions the *Saratoga* demonstrated that the aircraft carrier could accomplish a naval objective independently of the battleship fleet. From that point on the aircraft carrier began its path toward dominance over the battleship. The World War II Carrier Strike Force can trace its origin to that attack on the morning of 26 January 1929. The aircraft carrier had commenced its drive to dislodge the battleship as the primary instrument of naval strategy. Admiral Reeves, who was accused of trickery, survived the hubbub cause by his unconventional tactics to become the Commander-in-Chief U.S. Fleet two years later. [Ref. 8: pp. 139-141]

The battleship era receded slowly until 7 December 1941 when it swiftly expired and sank to the bottom of Pearl Harbor [Ref. 3: p. 256]. However, naval strategy fashioned from the teachings of Captain Alfred T. Mahan was not so easily overturned. In fact, the aircraft carrier only appeared to create a new strategy. The carrier strike force performed the same functions as the battleship, only it did so with an extended range. Fleets continued to meet on the high sea, engage one another until victory was declared and then stop to pick up survivors from the sinking ships. Now, however, they engaged from hundreds of miles apart, and threw airplanes at one another instead of cannon shot. U.S. naval strategy continued to adhere to Mahan's principles of naval warfare. The Navy still felt the only correct objective for the application of naval power was the enemy's fleet and associated forces. Strategic bombing as touted by the Air Force was recognized but rejected as ineffective and "immoral" [Ref. 14: p. 309]. One could not control the seas with strategic bombing--and sea control was necessary for victory. Naval strategy had begun its alteration that would replace the

battleship with the aircraft carrier as the premier striking arm of the fleet. However, it did not abandon what had been the Navy's most basic purposes.

E. THE AIRCRAFT CARRIER AND THE BALANCED FLEET

The United States concluded World War II with complete mastery of the seas. Had the aircraft carriers been in Pearl Harbor on 7 December 1941, the situation might or might not have been different. Nevertheless, no one can contend with the preeminent position achieved by aircraft carriers, particularly in the Pacific where they reigned supreme. Admiral King, wartime Commander-in-Chief, US Fleet, paid a significant tribute to the carrier as follows:

> With the possible exception of amphibious warfare, which covers a field of considerably broader scope, the outstanding development of the war in the field of naval strategy and tactics has been the convincing proof and general acceptance of the fact that, in accord with the basic concept of the United States Navy, a concept established some 25 years ago, naval aviation is and must always be an integral and primary component of the fleet. Naval Aviation has proved its worth not only in its basic purpose of destroying hostile air and naval forces, but also in amphibious warfare involving attacks in support of landing operations, in reconnaissance over the sea and in challenging and defeating hostile land-based planes over positions held in force by the enemy. In these fields, our naval aviation has won both success and distinction. Because of its mobility and the striking power and long range of its weapons, the aircraft carrier has proved itself a major and vital element of naval strength, whose only weakness--its vulnerability--demands the support of all other types, and thereby places an additional premium on the flexibility and balance of our fleet. The balanced fleet is the effective fleet. [Ref. 2: p. 9]

This highly supportive attitude permeated all naval thinking after the war. The versatility of naval aviation in accomplishing all of the naval strategic precepts of Mahan made it the ideal focus of naval strategy. Naval aviation was effective at maintaining control over sea lines of communication by sinking enemy forces bent on sea denial. It was equally effective at meeting enemy forces on the high seas or in coastal areas, either independently or in support of other naval operations. The usual doctrinal intransigence of naval leadership had been significantly moderated before the war by the aerial demonstrations already discussed. Pearl Harbor and the sinking of the battleship fleet left little choice but to rely on the aircraft carrier. In that way naval aviation was forced to prove itself early which it did with spectacular success at such places as Midway and Marianas.

Along with its preeminent position as the striking arm of the fleet, the aircraft carrier was easily adaptable to a new role--showing the flag. Its mobility and strength made it the ideal instrument of foreign policy for a nation inclined toward isolationism

yet forced into international leadership by world events. The carrier could move into a situation, and by its mere presence ameliorate events or take positive action if necessary--yet, be ready to pull out if circumstances warranted. The aviation admirals who had risen to positions of authority during the war had the uttermost confidence in the aircraft carrier and were eager to apply it in a peacetime role.

As Admiral King stated, the carrier depended on a balance fleet, a concept that had been instilled in the Navy several years previously. There could be no effort by naval aviation to separate itself from the rest of the naval community. The aircraft carrier was totally dependent upon the fleet for assistance at anti-submarine warfare, and logistical support. The process of advancement and path to "command at sea" contributed to a unified outlook by aviation officers that prevented any separatist attitudes. Simply stated, naval aviation could not be separated from the rest of the fleet; doing so was not possible.

Naval aviation finished World War II as the premier strike force of the fleet. There were 115 carriers in commission or under construction. Subsequently, even with the inevitable post-war standdown, the Navy and naval aviation in particular were looking forward to a long period of prosperity after the war. The immediate task ahead was the integration of the atomic bomb into the carrier strike force strategy of the fleet.

III. PLANNING THE POST-WAR NAVY

A. PLANNING FOR DEMOBILIZATION

The course and fashion of postwar planning in the U.S. Navy was heavily influenced by various developments that occurred as byproducts of the war although not specifically products of combat or warfighting. The first development was the growth of the Joint Chiefs of Staff which was instituted under the persistent idea that the more unification achieved between the services, the more efficient would be their operations. In reality, by bringing the services together bureaucratically against their will, it merely provided them an opportunity to learn and frustrate each other's plans [Ref. 3: p. 6].

A second development was that the Navy and the Army once again reached loggerheads on coastal defense. The specific conflict came over jurisdiction for anti-submarine warfare (ASW) within reach of Army aircraft. While this disagreement was relatively obscure in light of the ongoing war, it did keep alive the antagonistic feeling generated ten years earlier. And, while the argument over ASW was the most blatant of the disagreements, a general feeling of rivalry extended throughout the entire front of Army-Navy cooperation. This negative sentiment carried over into planning for the postwar Navy.

A third influence was the attitude of naval officers toward the participation of allied navies in the U.S. Navy combat role. There was a strong tendency in the Navy to scorn cooperation with the Royal Navy [Ref. 15: p. 105]. Although there was plenty written about the benefits of combined operations with the Russian Navy against Japan, Admiral King, Chief of Naval Operations, made it perfectly clear that they were not "indispensable" [Ref. 16: p. 397]. King was not anxious for any cooperative action between the U.S. and Soviet fleets in the Pacific.

This "go it alone" attitude by the Navy was later reflected in planning for the Navy's role in patrolling the postwar oceans. The Navy wanted the maritime equivalent of "spheres of influence". Rather than cooperating in joint responsibilities with the Royal or Russian Navies, the U.S. Navy wanted the Royal and Russian Navies to share control of the North Atlantic, the Royal Navy to patrol the Indian Ocean, and the U.S. Navy to patrol the Pacific. With this attitude, the pre-war Royal

Navy was credited with ending the war as strong as it had started, and the Russian Navy seriously overrated. They were trusted to control their naval responsibilities by themselves while the U.S. Navy concentrated on its traditional interests--the Pacific, and particularly the defense of the Philippines. [Ref. 3: p. 17]

In June of 1943 a retired admiral, C.C. Bloch, wrote a letter to vice-CNO, Vice Admiral Horne, addressing the question of preparing for a postwar navy. Bloch presented several ideas and made several recommendations that stand as the first attempt at planning for a peacetime fleet. Admiral Bloch did not display any particular strategic insight in his recommendations nor did he address the possibility of a postwar threat. But he did vary from traditional U.S. policy on one particular recommendation. Traditional policy formulated under Mahan's strategy held the fleet close to home until an enemy appeared on the horizon. Then the fleet would be directed to sally forth to engage the enemy. Bloch departed from this strategy by suggesting foreign patrol areas for six lesser units of the fleet while the six major task forces remained near home. [Ref. 3: p. 11]

No further action was taken on postwar planning until the Secretary of the Navy was prompted by a secret memorandum from the Secretary of War. Robert P. Patterson wrote to inform Navy Secretary Knox of the Army's new planning division and suggested that the Navy's planners collaborate with his office on postwar planning. [Ref. 3: p. 12] Knox immediately tasked the Navy leadership to step up its efforts in planning for the postwar environment. The CNO, Admiral King, soon had a directive for the Secretary's signature naming Admiral H.E. Yarnell, U.S.N. (Ret) to head the Special Planning Section of the Office of the Chief of Naval Operations. The Special Planning Section was formed to plan preparations for the demobilization of the naval establishment after the war.

Admiral Yarnell was given two ideas as general guidance from VCNO Horne:

- The peacetime fleet should be as large as possible, even if the ships were undermanned or in the fleet reserve.
- The fleet should be broken into task groups and stationed around the world rather than concentrated on the east and west coasts of the United States. [Ref. 3: pp. 13-14]

The first idea was merely an attempt to preserve the wartime strength of the Navy despite the inevitable force reduction that would accompany demobilization. By

keeping ships in commission, even if undermanned, the Navy would save itself for a while from the burden of squeezing shipbuilding funds from the Congress. The second idea was borrowed from Admiral Bloch's earlier memorandum and was novel in that it contradicted the traditional U.S. strategy of keeping the fleet close to home.

Admiral Yarnell's preliminary study on postwar demobilization for the Navy was submitted in the rough on 11 September 1943. Ironically, it did not concern itself as much with postwar reductions and demobilizations as it did with postwar strategy. Yarnell's work was heavily influenced by his failure to anticipate the growing struggle with the Soviet Union. He projected a rather peaceful postwar environment and believed the wartime allies would continue their cooperation long after the war. In this regard, he divided up the world and left the responsibility of Europe to Britain and the Soviet Union. He felt the traditional interests of the U.S. in the Pacific were correct and should continue. In Europe, he foresaw as the major job that of keeping Germany unarmed--a task the Allies could handle with only minimal assistance from the United States.

Domestically, he anticipated that the American public would continue to support a large military, that the Navy would maintain significant strength, and that the services would cooperate with each other on defense matters. He downplayed the role of the aircraft carrier and postulated that improvements in anti-air warfare would reestablish the vitality of the surface navy. He adhered to the strategy of Mahan in that he saw the only military objective of naval forces as the defeat of the enemy fleet. He assumed a large peacetime role for the British navy and dismissed the Russians as ever having a credible sea-going capability.

Four major events that Yarnell neglected to foresee but which would invalidate most of his work were: *first*, the development and employment of the atomic bomb; *second*, the postwar position of the Soviet Union as a world leader in conflict with the West; *third*, the lack of domestic support for a large military, and *fourth*, the rivalry and acrimony that would break out between the services. [Ref. 3: pp. 17-19]

Vice Admiral Horne revised Admiral Yarnell's draft and promulgated it as "Navy Basic Demobilization Plan No. 1." He retained most of what Yarnell had written but did rewrite some parts with which he disagreed. Naval aviation was reemphasized as the striking arm of the Fleet, and the capability of Russia to attain a significant naval presence was adjusted to predict the possibility of the same. In general, Horne did not share Yarnell's optimism for a peaceful postwar environment. He was more inclined to see the lack of discernable enemies as a sign for the need to trust no one.

Once again, Horne's planning document, although it toyed with the possibility of a Soviet threat, did not adequately lay out what enemy the Navy could expect to confront in the future. Instead of spelling out the threat, and addressing a strategy to meet that threat, the document was more a compendium of what the Navy would *like* to see, and how it would *like* to operate if given its choice regardless of outside influences. A clear identification of the threat is vital for military strategic planning. Without an identified enemy, naval leaders were left without being able to justify even in their own minds the level of expenditures that they wanted for the postwar navy.

An additional consequence of the lack of an identifiable threat, was the tendency to revert to prewar strategies. Subsequently, the inclination was terribly strong to relegate the defense of Europe and European waters to the British and Russians, to draw the fleet back home, and wait for the enemy to identify himself prior to taking action. Admiral Horne's moderate effort to identify the Soviet Union as a potential naval threat was a step in the right direction but was not strong enough to provide strategic planners the framework they needed to be truly effective. [Ref. 3: p. 37]

B. THE SECOND CONFLICT OVER ROLES AND MISSIONS

In October 1943 just as the Navy began initiating its efforts to plan for its postwar role in national defense, the Army and Army Air Corp launched their second attempt at emasculating the Navy. The JCS had formed a joint committee to comment on the Navy's request for aircraft appropriations that had been returned to them by the President for review. The committee's final report said: (1) the U.S. needed a single military chief of staff with genuine command authority, or a single defense department, (2) that the Navy was duplicating the Air Force's mission and did not need an aviation arm, and (3) that the Marine Corp was duplicating the Army's role and should be severely limited. The naval members of the committee deadlocked the discussions with their adamant rejection of the radical proposals. On 18 October the committee gave up and shelved its report. [Ref. 3: p. 52]

Meanwhile, Congress, responding to pressure from the Army as well as the public, called a special committee under the chairmanship of Clifton A. Woodrum, (D.,Va.), to conduct hearings on military matters including the question of reorganizing the military after the war. The Woodrum Committee sat on Monday, 24 April 1944 and opened with three days of testimony from the Army and Army Air Force on their proposals for reorganization.

A very distinguished group of Army Officers proceeded to explain to the Committee how dividing the Army into two services and the establishment of a separate air force would actually further unification of the services! They explained that only through autonomy could the Air Force realize the true potential of air power which the ongoing war was proving to be so important. They were joined by the Secretary of War, Henry Stimson, who helped them explain that unification of the services would prevent another Pearl Harbor, ensure better co-ordination between military policy and foreign policy, guarantee better military planning and efficiency, and, finally, give the Congress only one military budget to consider.

On Friday, the Navy was allowed to commence its rebuttal. Those who testified for the Navy included Under Secretary of the Navy James Forrestal, VCNO Horne, Marine Corp Commandant Vandegrift, and other distinguished naval officers.

While the Army and Air Force had emphasized that at the time they only wanted general approval of the plan not legislation, the Navy testimony strove to prevent any approval much less a decision until the war was over [Ref. 9: p. 197]. The Navy attempted to tie the unification issue to the broader issue of examining the entire governmental bureaucracy trying to show the need for reorganization far beyond just that of the services. The Navy rejected the "fraud and waste" theory for reorganization saying that separate services actually stimulated competition in the acquisition process in the finest traditions of free enterprise. Finally, the Navy, assisted by a friend on the Committee, Carl Vinson, pointed out the real motivation behind the Air Corps support for unification--its desire for autonomy. The illogic behind the idea that a separate air force would create more unification of the services was pointed out to the Committee.

The Committee, who had made its benign objectives well know at the beginning of the hearings, was not there to do anything more than hear each side's arguments on unification. It had never planned to initiate legislation and was only interested in ending the hearings on a positive note. So as to prevent embarrassment all around, the Committee agreed on May 19 to postpone the hearing indefinitely.

The hearings are generally accredited as having been a victory for the Navy. Certainly the Navy profited most from what was presented. The Navy realized that the Air Force was determined to pursue unification, and that severe damage could be done if the Navy was caught unprepared for future maneuverings. The fact that the Navy presented its case last was a positive aspect. By going first the Air Force was not able to refute the opposing position. The Navy could. Secretary of Navy Frank Knox

who supported some aspects of unification died during the hearing and was not able to testify. This left Under Secretary Forrestal, a brilliant man and ardent opponent of unification, to speak freely in support of the Navy. [Ref. 9: p. 192]

In the aftermath of the hearings, the Navy General Board took upon itself the responsibility of preparing the Navy's case for future encounters with Congress on unification. This represented a sharp departure from the traditional naval aversion to playing high level politics. The case the Board prepared was passed on and provided a basis for later efforts in frustrating Air Force machinations.

C. FORRESTAL AND THE POSTWAR NAVY

Upon Secretary Knox's death, James Forrestal was immediately appointed Acting Secretary, and less than a month later he was officially appointed Secretary. Secretary Forrestal immediately applied pressure on the Navy to put its planning efforts into high gear. Forrestal felt that the modest victory at the Woodrum Hearings was short-lived at best. He was sure that the matter would be brought up again as soon as the war was over. Furthermore, he believed that one way the Navy could prepare itself for future hearings would be to have a clear cut plan for itself in the postwar environment.

The original planning document, Navy Basic Demobilization Plan No. 1, was replaced by Plan No. 2 formulated by the same group who developed No. 1. Once again it reflected a lack of perspective. The planners went about their work totally isolated from other government agencies that might have provided a broadened outlook on the international environment. They based their planning on the second document as they did on the first one--on an uninformed expectation of the international postwar situation. They did not seek the help of intelligence agencies, governmental leaders of the U.S. or any other country. [Ref. 3: p. 95]

However, the second plan did differ markedly from the first in two ways. There was an emphasis in Plan No. 2 on the place that technology was predicted to play in the postwar world. The Plan encouraged the Navy to pursue a vigorous program of technological development and warned that the next war could possibly depend on the country's degree of technological superiority over an enemy. This emphasis represented a dramatic departure from the historical reluctance of the Navy to address technological improvements. The outcome of World War II had finally awakened the Navy to the necessity of actually seeking out new developments to maintain its technological edge over the enemy.

The second plan also addressed the possibility of significant budget cuts that would come with the end of the war. Whereas Plan No. 1 had been formulated under the assumption that the public would continue to support a large military establishment, Plan No. 2 was more realistic in assuming a significant personnel reduction and tightening of the congressional purse strings. Plan No. 2 projected a required budget of $3 billion for the postwar Navy versus the $7 billion projected in Plan No. 1.

Although Plan No. 2 was a more mature planning document, its major weakness continued to be a total lack of accounting for the possible hostile nature of the postwar international system. It assumed that the oceans would be divided between the U.S. and the British, with the U.S. concentrating once again on the Pacific region leaving the British Navy to patrol the eastern Atlantic.

Secretary Forrestal rejected both plans. He held suspicions of Soviet intentions that he was disappointed not to see in the plans. Forrestal appeared bitter at the ability of Stalin to acquire the Balkans and half of Poland with the apparent best wishes of the West, while the U.S. could not take any step to preserve its international security without being condemned as an imperialist or fascist [Ref. 17: p. 14].

From his growing concern Forrestal had concluded "that Russia was the emerging new enemy toward which not only the Navy's planning but indeed the whole of postwar U.S. foreign policy should be directed." [Ref. 3: p. 101] Not finding this potential threat adequately addressed in the plans, Forrestal initiated a major shake-up in the Navy's planning process that began in October 1944. The Chief of Naval Operations, Fleet Admiral King, assigned Admiral R. S. Edwards to assume the role as the head of postwar planning, replacing Yarnell who had developed both Plans No. 1 and 2. The job was elevated in rank to that of deputy CNO making the four star the second most powerful man in the Navy. Postwar planning had become top priority in the Navy.[4]

The new planners were told to disregard the Navy Basic Demobilization Plan No. 2 and start from scratch while basing their planning on an overall strategic outlook. This was to steer them clear from the previous tendency to get bogged down in specifics at the expense of seeing the bigger picture.

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[4]Although Japan had not yet surrendered, fear of anything but eventual victory had long since passed.

Forrestal was concerned about the necessity of maintaining control of the Pacific islands recently won back from the Japanese. He was aware of the vacuum that the policy of "unconditional surrender" had created in the Pacific and Europe. By disrupting the balance of power and destroying the ability of the Axis powers to rule themselves after defeat, a tremendous gulf had been created which Forrestal felt the Soviets would readily fill unless stopped. [Ref. 17: p. 24] His apprehensions were extended to include Europe and the Mediterranean. He expected to see such concern reflected in Navy planning and postwar strategy.

On 2 March 1945 the new planning document entitled "The United States Navy (Postwar)-Basis of Preparation of Plans" was submitted in the rough to Admiral King. With apparently few revisions by King, the document was distributed the very next day.

The strategy outlined by the document clung to the isolationist sentiments of it predecessors that would concentrate U.S. interests in the Western Hemisphere and the Pacific. However, it did admit to the necessity of being ready to go anywhere in the world required to exert force in support of American interests. The document postulated the probable institution of a world-wide peacekeeping organization of nations patterned after the League of Nations. However, it was pessimistic on the ability of such an organization to actually prevent war. This opinion was based on the recent two wars and the failure of the League of Nations.

The most interesting part of the plan for the purposes of this study was its discussion of the nature of a future war. It speculated that such a war would cause tremendous destruction and a "vast loss of life and treasure" [Ref. 3: p. 110]. Furthermore, the document said the U.S. undoubtedly would be involved in the next war and that it would probably start with an attack upon the United States. In order to prevent such an attack, the plan proposed to have a strong military force that could be applied against the aggressor.

Planning for the postwar Navy did not get much further than this. There were sporadic efforts and infrequent flurries of memorandums, but nothing substantial was produced. The death of President Roosevelt and the succession of Harry S. Truman to the presidency brought with it a renewed effort by the Air Corp, the Army, Congress, and the public for unification. While Roosevelt had always been particularly impartial toward most of the maneuverings on unification and establishment of an air force, Truman, an Army veteran was decidedly pro-unification and anti-Navy. For the Navy

it suddenly seemed what plans it had been able to make for itself no longer seemed realistic or applicable to the political climate brought on by the new president.

IV. FORRESTAL AND NAVAL STRATEGY

A. CONTRASTING TRADITIONAL STRATEGY

The quiet evolution in strategic thinking that had begun with the introduction of aircraft carriers was still in motion. It was particularly active in the minds of naval officers engaged in the Pacific war. They saw naval aviation in action, recognized its capabilities and acknowledged its weaknesses. They had the opportunity to analyze naval aviation's contribution to the Navy's mission and were beginning to see where that mission could be expanded beyond the traditional limits established by Mahan's naval strategy.

This evolution was not adequately reflected by the high level leadership in Washington such as Admirals King, Edwards and Horne who directed planning for the postwar Navy. These men had long been removed from the operational arena and had settled into the Washington naval bureaucracy missing a good deal of the latest lessons in naval warfare. They had spent their formative years of operational service at sea during World War I and in the intervening years of peace. They were all in their 60's and would already have been retired under normal circumstances. [Ref. 3: p. 208] They were generally "battleship sailors" who had been schooled in the strategy of Mahan. Subsequently, they held a philosophy of naval warfare that colored all their thinking about the employment of U.S. naval forces. This philosophy held that the U.S. fleet should be directed in action against the naval forces of the enemy. They were strongly attached to the importance of protecting and preserving the Western Hemisphere and only extended their interests to include the Pacific with particular emphasis on controlling the access to the Philippines. They placed a traditional trust in the Royal Navy to protect the Atlantic approaches to the United States. The U.S. fleet would, in their expectations, spend most of its time in port on the U.S. Atlantic and Pacific coasts. During war the fleet would concentrate itself into a striking arm and sail out to sea to protect the maritime approaches to the United States. The U.S. fleet would then engage in a great decisive battle with the enemy fleet.

This strategic philosophy was perfectly modeled on the teachings of Captain Mahan. The implications of such a strategic doctrine are numerous and in part contributed to the disagreement with the Air Corp over national strategy.

By restricting the role of the Navy to only attacking its opposite number, the enemy's fleet, the Navy naturally rejected strategic warfare. The historical range limitations of naval weaponry had never forced the Navy to consider the benefits or consequences of strategic warfare. Battleships could not strike deep into the enemy's homeland with sufficient strength to hinder the enemy's ability to carry on the war or continue his production of military weaponry. Consequently, the inevitable strategy that developed was totally lacking in strategic emphasis. A naval force was most effective in striking the opposing naval force. A fleet could sail against an enemy intending to achieve a military goal. However, that goal could not realistically include the subjugation of the enemy's homeland. The navy could bombard the coastal towns and cities, land raiding parties to harass and intimidate the civilians, but could not expect to occupy and control the enemy's homeland. To defeat and occupy the enemy's homeland required an army.

Therefore, a fleet, sailing to attack the enemy, unless it had an invasion force from the army embarked, could not have achieved any more than that of generally harassing the enemy's coastal areas. However, should it encounter the enemy fleet, it could then achieve a defeat of the force that would otherwise oppose an invading army arriving by sea. By achieving victory it could clear the way for an unopposed approach to the enemy's coast. The fleet was therefore shown to be much more efficient in its role of attacking the enemy fleet than in attacking coastal areas. It could achieve much more decisive results by engaging the enemy fleet than by harassing actions upon civilians. From these calculations on efficiency, Mahan derived his strategy of concentrating the fleet in attacks against approaching enemy fleets.

The naval strategy espoused by Mahan was unconventional because it rejected the traditional naval tactics of attacking commercial shipping and coastal raiding that had dominated U.S. naval thinking up until his time [Ref. 7: p. 101]. Captain Mahan preached the formation of capital ships that would meet and defeat the enemy fleet or blockade him in port thereby establishing undisputed control of the sea. It was this logical strategic outlook inherited from Mahan that had influenced naval thinking up until World War II and continued to dominate thinking in Washington up to the end of the war. The naval officers in Washington who had been isolated from the developments in strategic thinking in the Pacific continued to incorporate their traditional attitudes into the planning documents they produced, Plan No. 1 and Plan No. 2.

Another consequence of the rejection of strategic warfare by the Navy was a tendency to divorce the Navy from any concern over changing world conditions including internal developments in other countries be they friendly or not. The Navy was inclined to stand pat on what it had prepared for versus addressing possible changes in the international balance of power. Subsequently, the Navy continued to attribute far more strength to the Royal Navy than was warranted. The Navy had traditionally expected the Royal Navy to protect the Atlantic approaches to the U.S. and continued that expectation in its planning at the close of the war. The Navy was ready to ignore developments until they appeared on the horizon at which time the fleet would react.

Finally, the lack of strategic emphasis promoted isolationism among the Navy leadership. They were perfectly willing to abdicate the world-wide sea control established by the Navy during the war to an international peace-keeping organization[5] which they expected to be formed at the end of the war. Their interests were concentrated on maintaining the traditional pre-war roles of the Navy and not toward consolidating those roles assumed by the Navy during the war.

The introduction of the aircraft carrier and naval aviation had begun to force the evolution of naval strategy. By giving the Navy the ability to strike deep into the enemy's heartland, naval aviation had provided the Navy the opportunity to adopt a strategic role--strategic bombing. However, it was a role that the Navy had so far declined to exploit. The Navy leadership had to that point preferred to apply naval aviation in the traditional manner of naval strategy by directing it against opposing fleets.

The Air Corp, as a tool for prying itself apart from the Army, had been expounding the doctrine of strategic bombing since General Mitchell's controversial efforts on behalf of military aviation. It had been rejected by the Navy as a contradiction of traditional naval strategy. However, as with the historical introduction of new developments and innovative ideas into the Navy, a slow process began to erode the traditional strategy of Captain Mahan. Several events began to turn traditional naval strategy upside down and convert naval thinking to strategic warfare.

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[5]Despite the failure of the aborted League of Nations to keep the peace.

B. THE EVOLUTION IN CONTEMPORARY NAVAL STRATEGY COMPLETED

The leadership of James Forrestal was one of the primary factors that completed the evolution of naval strategy at the end of the World War II. While the evolution was in part attributable to the naval officers who had fought in the Pacific, it was James Forrestal that brought them to Washington where they had a chance to implement their new strategic thinking. Forrestal surrounded himself with a group of "young" admirals and captains who had been responsible for the brilliant victories of the war. [Ref. 3: p. 201]

These men had seen the war first hand and were predominately aviators who well understood the capabilities of naval aviation not only in direct support of the fleet but also in strategic roles. Navy bombers had been integral participants in the strategic bombing of industrial targets, transportation lines and military installations far behind enemy lines. The first strategic bombing of the Pacific war was conceived by the Navy although flown by the Army Air Corp--the Doolittle Raid over Tokyo. These younger men were perfectly willing to adopt strategic bombing as a naval role.

But, as much as the new naval leadership, it was Forrestal himself who brought about the change in naval strategy. He developed an increasing animosity toward the Soviet Union and that country's ideological imperative to destroy the West. He felt there was a similarity between Soviet ideology, Nazism and Fascism in that they were all three incompatible with democracy. [Ref. 17: p. 57] Not finding adequate attention paid to the Soviet threat in naval planning when he took over as Secretary, Forrestal ordered a shake-up in the planning apparatus and directed that more attention be paid to international events.

However, as soon as the Navy found itself devoting more attention to Russia as a threat to the postwar peace, it found itself opening up for attacks by the Air Corp. This was based on the Navy's own assertions that Russia was a land power with little possiblity of becoming a sea power. By the Navy's traditional definition of the Navy's responsibility--engaging the enemy's fleet--the Navy was admitting that it would have no role in a conflict with the Soviet Union. Carried to the extreme, the Air Corp could contend that if the nation expected the future war to be with Russia, then the Navy,

who would have no meaningful role, was obsolete, should be reduced and the money given to the strategic bomber force who soon would be able to attack Russia from U.S. airfields.[6]

Finding itself in this dilemma, the Navy was not long in justifying a strategic role for itself. Admiral King quickly made up for his recent lack of strategic acumen and began embracing the idea that the Navy was much more versatile than it had been in the past, and was committed to becoming more capable in the future by developing a strategic role [Ref. 3: pp. 188-189].

Secretary Forrestal began manifesting his apprehensions about the Soviet Union by directing that exercises should be undertaken in both the Arctic and the Antarctic as practice for operating in northern climates. [Ref. 18: p. 25]. Meanwhile, he became concerned over Soviet intervention in areas like Greece, Iran, the borders of Turkey and in the Balkans. And, he came to a conclusion that would have a lasting impact on the Navy. He was well aware of the Soviet ideological imperative to ferment revolution wherever possible, and felt the Soviets would very likely attempt action throughout the world wherever they felt unopposed. He therefore decided that the Navy would be deployed to those areas to present a deterrent to Soviet aggression.

In pursuing this decision, Forrestal approached Secretary of State Byrnes on the idea of establishing a task force assigned to the Mediterranean. They agreed to send the battleship *Missouri* which would also return the body of the Turkish Ambassador who had died in his post at Washington. [Ref. 17: p. 141] The *Missouri* was joined by two Eighth Fleet cruisers already in the Mediterranean. Together the group visited ports throughout the area. Finally, on 30 September 1946 Forrestal formally established the "U.S. Naval Forces, Mediterranean" which was renamed in 1950 the "U.S. Sixth Fleet." [Ref. 3: pp. 224-225]

The establishment of a permanent naval presence in the Mediterranean was of tremendous significance. It broke in half the long tradition of naval isolationism that had been fostered by Mahan's strategy. It committed the Navy toward a vital interest in the internal affairs of countries as naval deployments began to be adjusted according to instabilities in the international balance of power. The Navy was no longer directed solely at the naval forces of a potential enemy, but would be directed at the country itself. This provided the solution to an earlier problem of finding a strategic role for

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[6]Assuming strategic bombing could defeat the enemy by itself, there would not even be need for the Navy to transport troops and supplies to Europe since bombers would eventually be able to take off from and return to U.S. bases.

the Navy. The Navy was required to prepare itself for conducting operations using either conventional or nuclear weapons (once they became available) against countries that would perhaps not even have a naval force. Involvement in such operations would necessarily include the tactical as well as the strategic bombing of military and civilian targets. Secretary Forrestal, in a very short period of time, had completed the transformation of the Navy from its traditional foundation on the strategy of Mahan into a much more versatile military organization that was *justified* through national mandate in exploiting every arena of military warfare necessary to its mission.

The transformation of the Navy was accomplished by Forrestal and the war-tested officers he brought from the Pacific to Washington. However, the transformation could not have taken place without the proven capability of naval aviation. The Navy's new role was based almost entirely on the power and capabilities associated with naval aircraft. Naval aviation had achieved it preeminence in World War II and then made possible the transition of the Navy as a viable fighting force into the postwar world. All of the ridicule heaped upon the Navy by its critics, particularly from the Air Corp, who said the Navy had no further role in the postwar environment, was suddenly without foundation.

The Navy was clearly still a viable institution and there was no reason to predict otherwise for the future. However, since it was based upon the continuing viability of naval aviation, it did little to stifle the critics. In fact it only made the Air Corp more determined than ever to divorce aviation from the Navy. No doubt this was due to the fact that for once, the Navy, with the real possibility of developing a potent strategic capability, was actually starting to threaten the Air Corp's role! [Ref. 3: p. 229] For the first time, the Navy was in a position to question the value of an army air force. The destructive power of the atomic bomb once adopted into regular service meant that bombers no longer needed tremendous bombbays, nor if placed on aircraft carriers did they need forward airbases in uncertain territory. Bombers would more likely need to be small and fast to evade enemy air defense--characteristics that were perfectly compatible with carrier aviation. This only added to the hostility between the two services that was soon to erupt again.

The final evolution of naval strategy through the end of the war and into the postwar period can be credited to James Forrestal who created it through the international scope of his perceptions. He was not just concerned about the naval budget. He did not allow himself to become bogged down in the minute details of his

responsibilities despite the continuing struggles with other services. He maintained his concern for the national welfare and sought to determine the best application of naval power in preserving that welfare. He was concerned about the Soviet world-wide threat and employed naval forces so as to meet that threat as best he could.

With the deployment of a permanent presence in the Mediterranean the Navy entered another stage of preparation for the adoption of nuclear weapons. By accepting strategic bombing as a viable employment of naval force projection, the Navy was unconsciously creating the justification that it would later use against critics when it commenced its struggle to adopt nuclear weapons into its naval maritime strategy.

V. THE NAVY AND THE ATOMIC BOMB

A. A NEW ATTITUDE TOWARD INNOVATION

As was pointed out in the introduction to this study, the Navy did not have a good record of adopting new technology or innovative ideas into its organization. Also discussed was the impact upon traditional thinking in the Navy by the diversity of naval operations brought on by the submarine and airplane. These developments slowly eroded the close-minded character of the naval leadership toward innovation in both hardware or strategy.

The legacy of Mahan did not really contribute positively toward adopting innovation. It was more likely to stifle the pursuit of new developments because it purported itself to be the definitive word on naval strategy. Such an attitude is never conducive to change or improvement. The preoccupation with meeting the enemy's fleet in one great concentrated battle inclined the fleet toward quantitative not qualitative improvements in naval forces [Ref. 3: p. 188]. There was a world-wide appreciation for the work of Captain Mahan and subsequently a world-wide preoccupation with the quantity of ships in opposing fleets. The outgrowth of a mutual concern for the quantitative balance among the world's fleets resulted in the Washington and London naval treaties. Each naval power was vitally concerned with the tonnage, size and armament of the other naval powers in order to forecast the chances of victory in a concentrated battle upon the high seas.

The battleship was the quintessential expression of naval thinking under the influence of Mahan's expositions on naval strategy. The battleship was not built for shore bombardment other than as a secondary role. It was built with steel armor belting to protect it from the 16 inch guns of its opposite number in the enemy fleet. The battleship was strictly a tactical weapon whose purpose was to confront and defeat the enemy fleet.

The advent of naval aviation initially complemented the traditional strategies of naval warfare. Naval aviation extended the range of the fleet and ultimately, at Midway, allowed the fleet to engage the enemy beyond the line of sight. Eventually, however, naval aviation proved itself to be more than just an extension of traditional naval strategy.

Naval aircraft could strike deep inside enemy territory and achieve strategic objectives that had always been denied the battleship fleet. While this evolution in strategy progressed slowly at first, it was finally pushed forward with a desperate thrust not just as a newly discovered innovation to enhance naval effectiveness, but also as a last minute defense against the onslaught of the Army Air Corp.

The Air Corp wanted independence from the Army in order to pursue strategic bombing which it had determined represented the final word in military strategy. For the Air Corp strategic bombing made both navies and armies obsolete. A future war would start with a surprise bombing attack and end with a bombing attack. The swiftness with which the war would progress left no room for navies or armies both of whom were vulnerable to the airplane.

In the minds of Air Corp officers, because it was obsolete, the Navy had no need for an aviation branch. It certainly had no need for a strategic role, nor did it have a need for nuclear weapons. In order to protect itself from the efforts of Air Corp aimed at its destruction, the Navy "discovered" its strategic capability and reevaluated its own concept of its mission which had historically been defined by Mahan's strategy.

The Navy had historically conceptualized its mission as defensive. It would remain close aboard the Atlantic and Pacific coasts until ordered to sea to fight an approaching fleet. The potentialities of a strategic role forced a rejection in part of this historical role. Involvement in strategic warfare required the abandonment of a defensive mentality.

The Navy had contented itself with ignoring the strategic political developments around the world and had only been concerned with the quantitative balance of naval forces. Suddenly, upon discovering its strategic capabilities, the Navy became concerned with much more than the naval forces that it might encounter on the high seas.

Secretary Forrestal's apprehensions over the Soviet Union and its world-wide activities provided the Navy with the mandate to address its strategic capabilities to all potential threats to American national security. Under Forrestal's direction the Navy finally overcame its historical predilection toward ignoring world events and once and for all abandoned its opposition to innovation. As the traditional strategy of Mahan was superceded, so was the obsession with quantitative comparisons.

With the change in strategy and the explosion of the atomic bomb, it became accepted in the Navy that while quantitative measures would always be important, the

next war might very well rest on *qualitative* superiority [Ref. 3: p. 58]. Subsequently, in order for the Navy to be qualitatively superior to the potential threat, it became expedient that the Navy ensure it had the very latest hardware, tactics and strategy. The Navy became the most eager recipient of new and innovative developments--a dramatic departure from its historical legacy![7]

When Secretary Forrestal defined for the Navy its strategic capability, he gave the Navy its greatest boost into the postwar environment. From that point the Navy looked around and inevitably saw a new development that would hopefully finally establish a place for the Navy far above its critics. That new development was the atomic bomb. Applying the atomic bomb to naval aviation seemed to many to be the panacea for all the domestic problems the Navy had encountered over the many years of struggle with the Army and the Army Air Corp. If the atomic bomb could be adopted to the Navy in a strategic role, many felt that once and for all the critics, who claimed the Navy was obsolete in the modern era of strategic bombing, would be silenced. The truth unfortunately proved far from that.

B. THE NAVY'S ROLE IN DEVELOPING THE BOMB

In 1915 the Secretary of Navy, Josephus Daniels, organized a naval consulting board with Thomas A. Edison as the chairman [Ref. 19: pp. 307-309]. The most significant outcome of their otherwise undistinguished activities was the establishment of the Naval Research Laboratory which began operations in 1923. The NRL was very active on a variety of projects between the wars and helped develop radar. [Ref. 20: p. 140]

Serious research in atomic physics had been going on not only in the United States but also in Germany, France, England and somewhat less so in Japan. The radiation of particles from uranium had been studied extensively but there had not yet been a controlled chain reaction. A report was made in January 1939 by Enrico Fermi, an Italian physicist from Columbia University, on the success of two German scientists, Hahn and Strassmann, in splitting the uranium atom, the first step toward a chain reaction.

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[7]A beneficial byproduct of the Navy's craving for innovation and new technology was that it provided further ammunition with which to stave off the Air Corp in its incessant attacks on the Navy. By integrating the new developments of modern warfare into its capabilities, the Navy refuted the Air Force's claims that the Navy was vulnerable, obsolete and unnecessary in modern warfare.

Ross Gunn, superintendent of mechanical and electrical divisions at the Naval Research Laboratory, heard the report and was determined to pursue the possibilities of nuclear reactions and their applications for naval science. Gunn convinced Fermi to talk to the Navy Department, which he did on 16 March. While Fermi did point out the potential inherent in atomic power, he was not extremely optimistic on when a chain reaction could be brought about. Unfortunately, his lack of optimism infected his naval audience. [Ref. 21: p. 15]

The Navy leadership present at the meeting with Fermi were more interested in the possibilities of nuclear power applied to propulsion for naval vessels than they were in atomic bombs.[8] With the less than enthusiastic recommendation from Fermi, they saw atomic power as a long-term project and not something that could have an immediate impact on national defense. Gunn was neither discouraged not did he give up. He approached Rear Admiral H. G. Bowen, Chief of the Bureau of Engineering, who provided the Lab very modest funding for naval research into nuclear physics. The research was actually attempted at the Carnegie Institution because the NRL was more oriented toward applied than theoretical studies. Although the research was very limited in scope, it did establish the Navy as the first U.S. government agency to take a particular interest in atomic power [Ref. 22: p. 15].

One of the tremendous obstacles encountered in developing nuclear power was the necessity of isolating the isotope Uranium 235 from uranium. Uranium 235 will sustain a chain reaction and uranium in its natural state will not. Unfortunately, U-235 only comprises about one percent of the uranium found in nature. Subsequently, it required a tremendous effort to determine the technique required to separate the two. [Ref. 23: p. 8]

Under Navy sponsorship one method of separating uranium, thermal-diffusion, was developed at the NRL. The effort was expanded and a pilot plant built at the Philadelphia Navy Yard to process uranium under the thermal-diffusion method. Three years later, General Groves, who was placed in charge of the nation's effort to build a nuclear bomb--the Manhattan Project--considered the efforts of the NRL but felt the process, thermal-diffusion, was too slow to meet the needs of the war effort.

The Navy was undaunted and continued its research independent of the Manhattan Project. They were not all that interested in the line of development toward which the Project was directed--the atomic bomb. The NRL was much more

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[8]World War II had not yet started.

interested in pursuing atomic power as a propulsion system for submarines. [Ref. 21: p. 16]

Later General Groves, encouraged by Robert Oppenheimer, reconsidered the Navy's process. Other processes used proved to be little better than what the Navy had already developed. Convinced the other processes were just as inefficient, General Groves adopted the Navy process and built a full-scale thermal-diffusion plant at Oak Ridge, Tennessee where the main effort at separating U-235 was taking place. Although still extremely inefficient, the plant did provide a contribution to the total amount of U-235 isolated. [Ref. 22: p. 21]

In his memoires, *Now It Can Be Told.* General Groves mentions that while being briefed on his new assignment to head the Manhattan Project, he was told the Navy had so far been left out of the project[9] at the explicit direction of President Roosevelt [Ref. 23: p. 22]. Nevertheless, once in charge he personally visited the NRL to observe their processes and later was quite happy to name a naval officer to head the ordinance program at Los Alamos that would actually build the bomb. Groves named Captain William S. Parsons who had graduated in 1922 from Annapolis and later from the Naval Postgraduate School. Parsons went to Los Alamos after having worked extensively in developing and fleet testing proximity fuses. Upon his arrival at the security gate of Los Alamos the dearth of naval personnel at work on the project contributed to his arrest by the guard on duty. The guard claimed to his superiors that he had " . . . caught a spy . . . his uniform is as phony as a three dollar bill. He's wearing the eagles of a colonel, and claims that he's a captain." [Ref. 23: pp. 160-161]

Eventually other Navy experts were drafted for work at Los Alamos. The effort to develop a method of exploding the bomb brought personnel from the Naval Ordinance group at Dahlgren, Virginia. Two principle methods for exploding were evaluated. One method, similar to the principles of conventional naval gunnery, consisted of firing one mass of uranium into a second mass to form a "critical mass." Lieutenant Commander E.F. Birch, USNR, was placed in charge of pursuing that form of detonation. The second method consisted of encasing the uranium mass inside a shaped explosive charge that would compress the uranium by implosion to achieve a critical mass. Lieutenant Commander N.E. Bradbury, USNR, took charge of developing the second method. [Ref. 2: p. 153]

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[9]One author attributed this to the Navy's "go it alone" attitude and single-minded pursuit of atomic propulsion.

The Navy was an integral participant in dropping the bomb on Japan. The Navy directed the preparations of the facilities upon Tinian, the island from which the B-29's would fly, and made arrangements for rescue operations for the aircrews should the need arise. Captain Parsons and his assistant, Commander F.L. Ashworth, had carried out tests of the three bomb designs while at Los Alamos. They also determined the best procedures for dropping the bomb so as to provide the maximum protection for the crew. Subsequently, both Parsons and Ashworth flew on the actual missions over Hiroshima and Nagasaki as weaponeers. As such they insured the correct arming and fusing of the bombs. Parson's log of the actual drop on Hiroshima proves interesting reading:

6 August 1945	0245 take-off
0300	started final loading of gun
0315	finishing loading
0605	headed for Empire from Iwo
0730	red plugs in[10]
0741	started climb. Weather report received that weather over primary and tertiary targets was good but not over secondary target.
0838	leveled off at 32,700 feet
0847	electronic fuses were tested and found to be o.k.
0904	course west
0909	Target Hiroshima in sight
0915.5	drop bomb Flash followed by two slaps on plane. Huge cloud
1000	still in sight of cloud which must be over 40,000 feet feet high.
1003	fighter reported
1041	lost sight of cloud, 363 miles from Hiroshima with the aircraft being 26,000 feet high [Ref. 23: p. 318]

[10]The plugs armed the bomb.

Both Parsons and Ashworth had worked long and hard on the atomic bomb. They were vitally interested in seeing the Navy adopt the bomb and both later played a leading role in bringing that to pass.

The Navy had been the first of the services to pursue nuclear power. The Naval Research Lab, although discounted early on by General Groves, eventually contributed to the final development of the bomb. By playing a part, however minor, in the Manhattan Project the NRL had established for the Navy a certain "right" to not only send officers to work at the project after the war but also to benefit from the results of the research. The later efforts of Parsons and Ashworth in developing the Navy's atomic bomb delivery capability proved that while the Navy's contribution to the Manhattan Project had been small, it was a wise investment.

C. THE BIKINI TESTS

The Air Corp based its case against the Navy on the proposition that strategic bombing had made navies obsolete. Ever since Mitchell had demonstrated the vulnerability of surface ships to bombing from aircraft, the Air Corp had pursued every avenue possible to denigrate the Navy. Not only did the Air Corp want to appropriate Navy funding for itself, but wanted the threat of naval aviation removed, either by reducing it to a few flying boats or transferring it all to the Air Corp.

The lessons of World War II had been interpreted by the Air Corp to reinforce their position. They reasoned that strategic bomber attacks had broken the back of Germany and would have done the same to Japan regardless of the atomic bomb. The Air Corp and its proponents in Congress were convinced that the next war would be fought entirely within the context of strategic bombing. The pace of future combat was believed to be so quick as to dilute beyond significance any contribution that navies or armies could possible hope to make to the war effort.

Congress was ready to accept such a philosophy albeit for different reasons. The Air Corp, whether or not it actually believed such a strategic outlook, hoped to exploit strategic bombing to not only free itself from the Army but to ultimately establish its primacy as the premier service in the nation's defense. Congress on the other hand was inclined toward acquiescing in the Air Corp's thinking for other reasons that although different where just as political in nature. First, the Congress wanted to believe any strategy that would envisage little or no occasion to use U.S. ground troops. Second, the strategy must promise a quick decisive victory over the enemy with the battle as far

away as possible from the United States. [Ref. 3: p. 243] Strategic bombing fit in perfectly well with both of those demands.

The atomic bomb only seemed to complement what the Air Corp had been saying all along. The atomic bomb, now that the expense of development was over, could combine the political benefits of strategic bombing with the more pragmatic benefit of economy. The atomic bomb combined with strategic bombing gave the United States a capability that aptly fit its new role as the world's policeman. From a position of safety, aloof and omnipotent, the U.S. could quickly reach out and punish any violator of world peace with a blow so devastating as to be a deterrent from even the thought of violation.[11] The foundations of massive retaliation as national strategic doctrine were buttressed by the pragmatic principles of economics.

The writing on the wall was clearly read by the Navy who realized that two points had to be established immediately:

- The fleet was still a viable force in the atomic environment, and
- The fleet, specifically naval aviation, could also exploit the potential of nuclear weapons. [Ref. 3: p. 243]

If the Navy was to continue with any semblance of its wartime strength it would have to quickly establish itself as capable of meeting the atomic threat, surviving and presenting an atomic capability of its own. The immediate interest of the Navy in establishing its "atomic credentials" was a dramatic manifestation of the Navy's new attitude toward technology. The historical reluctance to explore new developments was completely discarded.

One month after the bomb was dropped, Secretary Forrestal established the Office of Special Weapons and tasked it with developing atomic weapons and determining "the capabilities and inherent advantages of aircraft operating from mobile bases, in attacks on vital targets" [Ref. 5: p. 221]. The newly assigned Deputy Chief of Naval Operations for Special Weapons, Vice Admiral W.H.P. Blandy, was joined by Commodore W.S. Parsons and Commander F.L Ashworth--both fresh from their flights over Japan. To their group was added Commander Horacio Rivero assigned as Officer in Charge of Atomic Weapons. [Ref. 2: p. 154]

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[11]The Navy shared this attitude. Admiral King, CNO, said, "Every country knows, and realizes, our good intentions. . . I believe more attention will be paid to our views if we are ready to knock down anyone who interferes with world peace." quoted in *New York Times*, 28 October 1945.

The first assignment for the new office, designated OP-06, was to conduct a test of naval ships under the impact of an atomic blast. It was recognized that the future of the Navy would rest on the outcome, but it was not something that could be avoided or postponed. The sooner the results were known, hopefully favorable to the Navy, the sooner the criticisms in Congress could be silenced.

The outline of the test was given by Admiral King in Kansas City on Navy Day, 27 October 1946:

> Here for a Navy Day celebration, Admiral King said the plans would be subject to the approval of any body that Congress might establish to control atomic research. A bomb would be exploded above water in one experiment, and below in the other, with approximately forty or fifty ships to be used in each test. "We're going to have plenty of ships to work with," the Fleet Admiral declared. "We're going to discard at least one-third of the ships we wound up the war with. The Japs have a number, not much good for anything else, We also may look at the German fleet for some." [Ref. 24: p. 35]

Actually, the Navy was not the first group to wonder what effect the atomic bomb would have on naval vessels. The Los Alamos scientists had wondered the same thing while the bomb was still in development. Their concern centered on the effectiveness of the bomb if it had to be dropped on Japanese fleet concentrations. [Ref. 25: p. 9]

A senator, Brien McMahon (D., Conn.), recommended on 25 August 1945 that the bomb be tested on the remaining Japanese Fleet [Ref. 25: p. 10]. His recommendation was soon followed by an Army recommendation for the same test--proposing that two bombs be dropped on the surrendered fleet. Shortly thereafter, General Hap Arnold, the Army Air Corp representative on the Joint Chiefs of Staff, recommended that an order given by Admiral King to sink the remaining Japanese fleet be countermanded and that the ships be made available for testing with the atomic bomb to be carried out by the Army Air Corp. [Ref. 25: pp. 10-11]

Admiral King promptly made a broader proposal to include both the Navy and the Army in the exercise, and that one bomb be dropped from the air and one be placed under water.[12] The two services struggled over details of the test, the configuration of the targets, and, most importantly, who would be in charge. Finally, control of the test was given to the Navy's Office of Special Weapons under Vice Admiral Blandy. Admiral Blandy was designated Commander of Joint Task Force One

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[12]Thereby, ensuring that each service had control over at least one of the bombs.

and specifically told to adequately represent "land, sea and air forces" on his staff as well as civilians. (See Appendix A)

Inevitably, involving the two services in the tests provided plenty of opportunity for disagreement and conflict of interests. Test Alfa of Operation Crossroads, the name chosen for the tests, was to be set off at some undetermined altitude. Discussion was held on the feasibility of placing the bomb on a tower or suspending it from a balloon--probably a subtle effort to reduce the role of the Air Corp. Naturally, the Air Corp would have none of that but insisted that the bomb be dropped from an airplane so as to provide ". . . invaluable experience in precision atomic bombing," as well as to allow the bomb to be exploded at an altitude where it could do the most damage [Ref. 25: p. 23] --probably a subtle effort to enforce its contention that ships were extremely vulnerable.

Eventually, the details of the test were hammered out. The first test was to be conducted on 15 March 1946 and the second test six weeks later.[13] Test Alfa was to be conducted by dropping the bomb from a B-29 and Test Bravo by exploding the bomb deep underwater. A tremendous amount of effort went into preparing Bikini Atoll for the test. Eventually 42,000 men were involved with a myriad of ships from the U.S., Japanese and German fleets serving as targets. Animals were placed on board the target ships and around the atoll to test their exposure to nuclear effects.

The tests were conducted and the results analyzed. The interpretation of the results was inevitably controversial. The ships had been arranged in a target array that bore no resemblance to an actual naval formation. The ships at the bull's eye had been drained of fuel in order to prevent resultant fires from distorting the actual damage created by the bomb's effects. Additionally, the ships were stationed so that none would be shielded by another from the bomb's total force. Finally, much to the chagrin of the Air Corp, the bomb did not land on target. The *Nevada*, the zeropoint target, had been given a high-visibility paint job as well as a flashing light to identify itself. Nevertheless, the bomb exploded almost two miles from the target. [Ref. 14: p. 224] Although the air burst sank five ships, the Navy contended that the scenario was so artificial and the bomb so far off target that it proved nothing about the vulnerability of warships to an actual atomic attack. It contended that the real value of the test was the tremendous amount of scientific data gathered on blast pressures,

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[13]The tests were postponed for six weeks by order of President Truman in order to allow interested Congressmen who had to wait for the summer recess to attend. July 1 became the new target date.

bulkhead damage, wave formation, etc.. The Air Corp contended that the test once again proved the vulnerability of ships to aircraft [Ref. 2: p. 155].

Test Bravo sank nine ships and pushed two million tons of water into the atmosphere over the atoll. The strength of the underwater shock wave did most of the damage, crushing the ship's hulls. The *Saratoga* which had figured so strongly in the adoption of naval aviation, sank after five hours of floundering.

In the end, the results of Operation Crossroads were not conclusive for either side, the Navy or the Army Air Corp [Ref. 14: p. 225]. Both could interpret the results to suit their own needs. The Navy had hoped that the results of the test would provide data on what measures could be taken to enhance the survivability of naval vessels in the atomic environment. The Air Corp hoped the tests would show the obsolescence of the Navy. Indeed, there was a tremendous similarity between the Bikini tests and the air bombing demonstration under General Mitchell. In both tests, the Navy was actually seeking data on how to improve the fleet while the Air Corp was seeking to demonstrate its own superiority.

Regardless of the controversial nature of the results, one thing was clear--the atomic bomb was a potent weapon that had to be considered by the Navy. The officers intimately involved in the tests--Parsons, Ashworth and a Commander John T. Hayward[14] --became convinced more than ever that the Navy had to develop a platform for the delivery of nuclear weapons and formulate a reasonable employment strategy or else the Air Corp would monopolize the bomb for itself. [Ref. 5: p. 221] They soon became involved in doing everything possible to make both happen.

D. A NUCLEAR BOMBER FOR THE NAVY

In late 1945 Commander Ashworth visited the Navy's Bureau of Aeronautics to inquire into the types of airplanes being developed and to determine whether or not they were suitable for carrying atomic bombs. From there he visited North American Aviation in Los Angeles to see the mock-up of the XAJ-1 Savage which was being developed for carrier aviation. [Ref. 3: p. 249] Although he did not have access to the exact specifications of the atomic bombs then being built, he did have a general idea of their dimensions and was satisfied that the Savage could be easily adopted to carry a nuclear payload.

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[14]Hayward had worked as director of development for the Bureau of Ordnance and then as a physicist on the Manhattan Project.

Upon returning to Washington, Ashworth drafted a letter for Secretary Forrestal to sign and send to the White House requesting the XAJ-1 be modified to provide an atomic delivery capability for the Navy. After sitting in Forrestal's office unsigned for months, suddenly the Secretary decided it did not need the President's approval and so approved the proposal himself. [Ref. 5: p. 221].

North American (later Rockwell) was subsequently allowed access to the technical data on the Mark IV bomb and contracted to produce prototypes of the Savage modified to carry atomic bombs. [Ref. 5: p. 221].

On 1 August 1946 President Truman signed the law establishing the Atomic Energy Commission. Although the military lost their monopoly on controlling nuclear weapons, a Military Liaison Committee (MLC) was established to provide substantial military input in the Commission. Rear Admiral Parsons was on the MLC as well as were Ashworth, the executive secretary, and Commander Hayward (previously mentioned and a fellow proponent of a naval strategic nuclear role) [Ref. 2: p. 157].

From their positions on the Committee, Parsons, Ashworth and Hayward were in an excellent position to promote the Navy's cause as well as keep tabs on the activities of the other services in regards to atomic weapons [Ref. 3: p. 250]. Perhaps, just as important, they were able to influence the designers and engineers at work on atomic bombs to refine the weapon in size and capability to increase its compatibility with carrier aviation. At the time the bomb was so big and heavy (60 inches in diameter, 128 inches long and weighing 10,000 lbs), the only platform that could carry it was the B-29. The Army Air Corp had a vested interest in discouraging attempts to reduce the bomb's size. They knew any miniaturization of the bomb's components would promote the Navy's efforts to adopt it to carrier aviation.

Meanwhile, Commander Hayward had worked to have the three largest carriers designated as storage sites for atomic weapons [Ref. 2: p. 158]. The ships were modified so as to have handling facilities, safety equipment and bomb-assembly spaces. The modification of the carriers and the pending development of the XAJ-1 Savage would guarantee the Navy a nuclear capability. However, Hayward was worried about the long lead time required for the development of the Savage. He did not feel comfortable allowing the Air Corp to dominate the atomic bomb delivery capability unchallenged during the interim. He realized the mood in Congress was still inclined toward unification and felt that further distance was needed between the Navy and its critics. He therefore asked Vice Admiral Forrest Sherman, Deputy CNO, to go before

Congress and ask for an endorsement of the Navy's plan to develop an atomic bomb delivery capability immediately. [Ref. 3: p. 251]

Sherman declined saying it would be strategically smarter to develop the capability first, then present Congress with a *fait accompli.* He reasoned Congress would be more likely to endorse improvements to a program than to endorse initiation of new program. Commander Hayward then set out to establish a make-shift delivery capability while the Savage was still in development. The three Midway-class carriers were in modification, but the only wheeled airplane the Navy had that could carry 10,000 pounds was the P2V Neptune patrol bomber. It was designed specifically to operate from a land base against submarines and certainly never meant to take off or land on an aircraft carrier.

Undaunted, Commander Hayward had 12 of the P2V's modified to accept a new version of the atomic bomb, the Mark VIII. The aircraft were stripped of unnecessary equipment, more powerful engines installed and additional fuel tanks added. Nothing however could be done about the wingspan which was calculated to clear a carrier superstructure by just ten inches. In April, 1948 two of the Neptunes were craned aboard the *Coral Sea* where the next day they took off from the ship's deck and flew back to Norfolk Naval Air Station, Virginia. After completion of the trials, Commander Hayward was given command of a squadron of 12 modified Neptunes with Commander Ashworth as his executive officer [Ref. 3: p. 253]. Composite Squadron 5 (VC-5) was stationed with the Neptunes at Moffett Field, California where it eventually received 12 AJ-1 Savage bombers.

The Squadron demonstrated its capability most vividly when it launched from the deck of the *Coral Sea* on 7 May 1949 with newly promoted Capt Hayward at the controls of a Neptune and a simulated atomic bomb in the bombbay. The aircraft flew from off the coast of Virginia and across the country where it dropped its practice bomb at El Centro bombing range in California. After returning to the East Coast it circled the *Coral Sea* and then landed at Patuxent River Naval Air Station, having been aloft for 23 hours. With this flight Hayward demonstrated that the Navy had achieved its goal of obtaining a true nuclear bomb delivery capability. A landing on the carrier was never attempted with the Neptunes. The attack plan held that the airplanes would either proceed to friendly territory and land, or ditch along side the carrier where the crew would be picked up. [Ref. 5: p. 222]

Although unconventional, the Navy was enthusiastic about its new capability. In September of 1949 Hayward took off from the *USS Midway* with the Secretary of the Navy onboard. Reinforced by this demonstration, the Navy formed another squadron, VC-6, under the command of Commander Ashworth. VC-6 was created to back-up VC-5 which was about to make its first operational deployment. VC-5 conducted its carrier trials with the newly delivered AJ-1 Savage. Finally, on 31 August 1950 Hayward led his squadron to a landing onboard the *Coral Sea* and commenced the first operational deployment of the Navy's atomic bomb delivery capability. [Ref. 2: p. 161]

At the end of 1948, two years before the deployment of VC-5 to the Mediterranean, Admiral Sherman had succeeded in convincing the Atomic Energy Commission to set aside several of the "Little Boy" atomic bombs to be issued to the Navy during a national crisis. Although the Navy's capability to carry a 10,000 pound dummy bomb had been demonstrated as far back as May 1949, the Air Force (recently given its independence and renamed by the National Security Act of 1947) refused to include the Navy in its national war plans and targeting for nuclear weapons until the actual deployment of VC-5 in August 1950. [Ref. 3: pp. 255-256]

The Navy had succeeded in challenging the Air Force for a role upon which the Air Force had founded its entire reason for existence. However, even though the Navy did deploy its strategic bombing capability, it was far short of what Hayward and the other proponents of naval aviation would have liked. When the earliest efforts of Parsons, Ashworth and Hayward became publicly known in 1946, the Air Force (as it would soon be known) recognized the threat to its role and mission in national defense such a capability for the Navy would represent and quickly took steps to stifle the Navy's program as much as it possibly could. The halls of Congress became the battle ground for the third conflict between the services over roles and missions.

VI. THE THIRD CONFLICT OVER ROLES AND MISSIONS

From the very beginning, the Army Air Corp had been allowed to pursue its own interests. The first airplanes assumed the role that balloons had held from as early as the Civil War--reconnaissance and targeting. However, the flexibility of the airplane, its long range and ability to bring its own weapons to bear on the enemy immediately established it as much more than a reconnaissance platform. However, the Army Air Service was not content to stay on the front lines of battle supporting friendly troops [Ref. 5: p. 20], but found itself drawn behind enemy lines to attack and bomb lesser defended positions. The Army acquiesced to the Air Corp's desires and allowed the Service to gravitate toward a strategic role at the expense of valuable tactical support for the ground forces, a job the Air Corp had never liked.

The division in roles and missions between the Army and the Air Service promoted and partially justified the Air Service in pursuing its own independence. The willingness of General Mitchell to sacrifice his career in the effort to aggrandize the Air Service reflected the passion among Air Service proponents for anything that would support and justify the independence of an air force. The uncontestable integration of naval aviation into regular naval forces represented to the Air Service a demonstrable refutation of their contentions and rationale for independence. It was necessary that they attempt to denigrate the relationship between the Navy and naval aviation in order to promote the validity of their own pursuit of independence.

Additionally, and more significant, was the threat posed by the capability of naval aviation to usurp the responsibilities that the Air Corp felt were its own. Not only did naval aviation's relationship with the Navy pose an embarrassment, but naval aviation threatened the very elements upon which the Air Corp based its *raison d'etre*. The developing capability of naval aviation to conduct strategic bombing eroded the justification the Air Corp presented for its own independence.

Strategic bombing, in the minds of the Air Corp, had relegated both armies and navies to obsolescence. Therein lay the necessity for an independent air force. The advent of nuclear weapons confirmed to the Air Corp that the nature of war had forever been changed. Future war would consist of strategic bombing attacks exchanged between adversaries. Only by preparing a force to deliver such an attack

could war be avoided. The Air Corp saw itself as a force to deter war; to spend money and resources on the Navy was wasteful and counterproductive. It would be much wiser to direct all funding toward the development of a tremendous strategic bombing capability. The first step had to be the creation of an independent air force.

The Air Corp's agenda was therefore divided into two goals: *first*, achieve its own independence and *secondly*, prevent the Navy from developing its own strategic role in the nation's defense.

A. UNIFICATION AND THE NATIONAL SECURITY ACT OF 1947

The idea of somehow unifying the services was certainly not new to the post-war era. Unification, an issue that developed at the turn of the century, had descended from the earlier issue of maintaining civilian control over the Army and Navy while centralizing their decisionmaking processes. The Army and Navy had divided themselves into a network of bureaucracies each responsible for its own area of interest, frequently frustrating the progress of the others and without a joint point of control or accountability. The consequences of such an arrangement were made apparent by the inept conduct of the Army Department during the Spanish-American war. [Ref. 9: p. 10] This created a tremendous outcry for the reorganization of the Army and to a lesser degree the Navy. Reformers wanted to establish a single civilian chief over the services as well as provide for a clear cut chain of command and accountability over the service bureaucracies. [Ref. 9: pp. 11-12]

The role model for reorganizing the Army was the German General Staff as it had developed in the early to mid 1880's. The waste, corruption and ineptitude displayed by the Army in the Spanish-American War forced the McKinley administration to take action on the matter which they did by bringing in Elihu Root, a corporate lawyer, to head the War Department. Root was told to straighten out the bureaucratic mess that had engulfed the Army department. The Army department had been divided into two parts, (1) operational--which was attempting to execute national policy on the frontier, and (2) bureaucratic--which was centered in Washington and spent its time cultivating political influence. Root saw the lack of a clear cut centralized command as fostering anarchy in the Army department administration. [Ref. 9: pp. 11-12]

To alleviate this, Root proposed to change the position of Commanding General of the Army to the Chief of Staff of the Army. Although he based this on the

structure of the German General Staff, he did not want to adopt the same high degree of autonomy. He meant for the Chief of Staff to function directly under the Secretary of War in directing the entire Army according to the instructions of the Commander-in-Chief as they came through the Secretary of War. The Commanding General, as he was then constituted, did not have direct control over several Army department bureaucracies which were directly linked through their own chiefs to Congress. Root felt that such a decentralized structure created parochialism, rivalry, and disunity of command. He intended that the very name, Chief of Staff, should indicate that the chief would advise, inform and assist a superior officer--the Secretary of War. The Chief of Staff would be the Secretary's personal military adviser, general manager of the military establishment and agent of the Secretary's policies [Ref. 9: p. 22].

Secretary of War Root hoped to centralize the direction of all aspects of the Army under one authority, the Chief of Staff, who would report to the Secretary of War thereby ensuring civilian control of the Army. Naturally enough the incumbent Commanding General, who did not favor increased civilian meddling in Army affairs, opposed the changes. But with the public demand for action, Root's proposals were passed as a bill by Congress in 1902. From that point every department in the Army that had previously enjoyed direct recourse to Congress became responsible to the Chief of Staff.

The demand for reorganization in the Navy was more constrained than it had been for the Army. However, there was perhaps more support among naval officers for reform than there had been among the army officers. Captain Alfred T. Mahan provided some influence for that by his emphasis on the development of a naval strategy. Before Mahan, the officer corp in the Navy had gravitated away from the development of strategy and the overall direction of the Navy. They had become increasingly caught up in their long and tedious efforts to analyze and implement the various technological developments that had recently been presented. Changing from sail to steam, the new rifled guns and the technical lessons of the Civil War were dominating the attention of naval officers. They appeared little interested in strategy or the overall operation of the fleet. They seemed perfectly content to leave the governing of the Navy and the preparation of strategy to civilians. [Ref. 9: pp. 50-52]

The establishment of the Naval War College in 1884 began an awakening in the officer corp of the necessity to reestablish control over the management of the Navy. As an increasing number of senior officers graduated from the college instilled with an

appreciation for strategy they had received from Captain Mahan, they began to challenge the decisionmaking structure of the Navy and to call for a general staff of naval officers to centralize planning and strategy formulation as well as to run the administrative operations of the Navy. [Ref. 7: pp. 15-16]

The call for reform inside the Navy was combined with one from without. A Strategy Board was established to provide more input into naval matters, but it failed to accomplish all that the reformers wanted. Finally in March 1900 the Secretary of the Navy created the General Board tailored along the lines of a general staff. [Ref. 7: p. 16] However, the Board was not given the authority it needed to take charge of the Navy. The Board was tasked with drawing-up and revising war plans in coordination with the War College and the Office of Naval Intelligence. [Ref. 9: p. 55] However, it had not been intended to manage the Navy, nor was it able to take any substantive measures to centralize command and control under one leadership. The Board did not report to the Secretary of the Navy and in fact operated independent of him. It was thereby left out of any management role of the service. The Secretary of the Navy was not anxious to threaten civilian control of the Navy by establishing a staff of naval officers that had real power in determining the course of naval operations.

The call for a general staff that would function in the chain of command between the service and the Secretary continued. President Theodore Roosevelt proposed the establishment of four naval aides to assist the Secretary. But such an arrangement, although implemented under President Taft, did not prove particularly effective at achieving what the reformers had wanted. [Ref. 7: p. 18] It was left for the administration of Woodrow Wilson to finally arrive at a workable solution. Ironically, it was under Secretary of the Navy Josephus Daniels, who opposed creating a general staff arrangement, that a workable structure was brought about.

Daniels' Aide for Operations, Rear Admiral Bradley A. Fiske, was not satisfied that his boss was adequately moving the Navy toward solving its problems. He therefore went to a friend, Congressman Richard P. Hobson, whom he convinced should support legislation in the House that would create a Chief of Naval Operations. The proposal would create a CNO to represent the entire Navy in dealings with the Secretary. The CNO would be the counterpart to the Army's Chief of Staff. Hobson introduced the bill into the House.

Daniels was unhappy with the wording of the original bill and had it clarified by stating that the CNO would work directly for the Secretary of the Navy so as not to usurp civilian control of the service. With that proviso, the bill was passed by Congress and signed into law in 1915. Daniels, still fearing that he would lose control of the Navy, selected as CNO Captain William S. Benson, who had never held a major command and had neither sat on the General Board nor had attended the War College [Ref. 9: p. 73]. Although Benson originally found his going rough, a pattern emerged that has continued up to today. Once Secretary Daniels realized the benefits of dealing through the CNO, both joined together to support each other in confronting critics outside the service. [Ref. 9: p. 61]

While both services were independently dealing with attempts to centralize their administration, moves to bring both together under a central body were taking place. As with the move toward centralization, the influence of Mahan fostered support among naval officers for at least some form of unification. Naval officers were more and more concerned with the impact of foreign policy on naval policy. Under Mahan they had been taught that the purpose of naval strategy was to implement national strategy. Doing so required a clear definition of both the national strategy as well as foreign policy of the government toward prospective enemies. To provide the coordination between foreign policy and naval strategy they proposed that a council of national defense be established that would provide a common centralized forum for defining national security objectives.

Secondly, the Navy's General Board had encountered political obstacles in building the fleet it desired. A council of national defense composed of the Secretaries of State, War, and Navy as well as the chairmen of the Senate and House Military and Naval Affairs Committee, the Chief of Staff of the Army, the presidents of the Army and Navy War Colleges, and the Naval Aide for Operations was seen as a valuable tool for overcoming congressional obstacles in the way of naval development. Both services saw the proposed council as an instrument of political leadership, but the Navy was most interested in the benefits it would provide for developing and implementing naval strategy [Ref. 9: p. 70].

Although proposals to establish the council were before Congress as early as 1912, the legislators failed to take action and were soon overcome by the events of World War I. In the meanwhile, a development occurred that seriously impacted on the Navy's interest in unification--the incremental growth of military aviation both in

the Navy and Army. The Navy had pursued unification measures to provide for a "unity of command" which was intended to enhance the posture of both the Army and Navy. However, the meteoric rise of the Army Air Service during and immediately after the war and its yearning for independence soon conflicted with the Navy's concept of unification. The subsequent efforts of the Army Air Corp to separate naval aviation from the Navy shifted the Navy's attitude toward unification completely. While the Navy supported a unified approach to the development of a national strategy it certainly was not willing to give up naval aviation in the bargain. From that point on the Navy began to oppose unification.

Finally, Congress acted by defeating the proposal to establish the Department of National Defense and instead passing the Air Corps Act of 1926 increasing the newly formed Air Corp's independence within the Army. The Navy was satisfied with the relationship between the CNO and Secretary of Navy and was not anxious to see any renewed effort at unification if it still threatened naval aviation. Nevertheless, during World War II, the Navy supported the work of the Joint Chiefs of Staff in that it enhanced the "unity of command" [Ref. 9: p. 202]. The Navy would not have objected to an even closer cooperation with the Army on developing plans and strategy. However, every proposal put forth by the Army promoting some form of unification was so clearly engineered by the separatists in Air Corp that the Navy could not do anything but reject it. The Air Corp was committed to exploiting the idea of unification to promote its own independence which necessarily included the emasculation of the Navy. Nevertheless, the Navy was always willing to work with the Army on deciding a coherent and united strategic policy for national defense. This was first manifested by the formation of the Joint Board of naval and army officers in 1903. The formation and limited success of the Joint Chiefs of Staff instituted by President Roosevelt during World War II provides another example.

Roosevelt's Joint Chiefs of Staff sat together for the first time on February 9, 1942. It was made up of General Marshall, representing the Army, General Arnold, representing the Army Air Corp and Admiral King of the Navy. They met not only to integrate their own strategies for the war but also to present the British chiefs of staff, with whom they were meeting, the semblance of a united war effort from the military of the United States [Ref. 9: p. 166].

The President of the United States was constitutionally instituted as the commander-in-chief of the armed forces. Since the JCS consisted of the heads of the

armed forces, they felt it gave them direct access to the President on matters of strategy and warfighting. This caused an uproar among the secretaries of the services who felt coordination with the President should come through them. Subsequently, each side appealed to the President and Congress for clarification of their roles. This dilemma was added to the Air Corp's demand for independence as well as the whole issue of unification and given upon Roosevelt's death to President Truman to solve.

Harry Truman had already made his opinions on the unification of the services perfectly clear long before he succeeded Roosevelt as Commander-in-Chief. As a senator he had written an article for *Colliers* magazine entitled "Our Armed Forces Must Be Unified." [Ref. 5: p. 18] In his capacity as chairman of the Special Committee to Investigate the National Defense Program he had first hand knowledge of repeated instances of waste, corruption and favoritism in defense matters and had committed himself to doing something about it. While running for vice-president he proclaimed himself an "ardent champion of a single authority over everything that pertains to American safety." [Ref. 5: p. 17]

After attaining the White House, Truman relaxed the intensity of his fervor and modified the proposals he had claimed were necessary to straighten out the defense establishment. He relaxed his call for establishing a general staff and eventually agreed to allow the Navy to retain both naval aviation and the Marine Corps--a separation he had originally promoted.

As soon as the war ended Truman resolved to press legislation through Congress that would represent as much unification as the services would tolerate. In an attempt to solve the dilemma of retaining strong civilian control of the services yet provide a unified command for strategy formulation, Truman proposed the creation of the Department of Defense headed by a cabinet-level secretary assisted by non-cabinetlevel secretaries for each of the three services, and the creation of an independent air force. The JCS would be left intact to provide direct strategy advice for the President in his role as commander-in-chief. To defend the interests of the Secretary of Defense, the idea of a single chief of staff officer representing the combined interests of the military was rejected. A National Security Council would be set up to decide matters of strategic policy and would include the Secretary of Defense as well as a representative from the JCS.

The Navy was satisfied with Truman's proposal. However, the fates of naval aviation and the Marine Corp were still in question. Before encouraging its supporters

in Congress to pass the President's proposal, the Navy wanted guarantees on the sanctity of both. A compromise worked out by Major General Lauris Norstad and Vice Admiral Forrest P. Sherman that satisfied the Navy's worries was added to Truman's proposal and sent to the Congress, where it was passed in mid July 1947. [Ref. 9: pp. 221-222] As a "balm" to the Navy, Secretary of the Navy Forrestal was offered the job of first Secretary of Defense [Ref. 26: p. 249].

B. THE ATOMIC BOMB AND NAVAL STRATEGY

Secretary of the Navy Forrestal awakened the Navy to the threat of Soviet incrementalism or "creeping aggression." The traditional neglect by naval officers of the implications of international events on the Navy had been curbed by Forrestal's demand that the Navy plan for a confrontation with a host of potential enemies regardless of their maritime capabilities. He was able to alter the historical preoccupation with the Pacific by establishing a permanent naval presence in the Mediterranean. He accelerated the Navy's acceptance of a strategic outlook toward warfare and thereby provided the Navy with its first opportunity to take an offensive position in the struggle with the Air Corp.

Forrestal's antipathy for the Soviet Union was initially at variance with the popular conception of U.S.-Soviet relations. The Grand Alliance, while necessary for the war effort, took on the unrealistic aura of perpetual cooperation that barely survived the war's end. On February 22, 1946 George Kennan's "long telegram" arrived in Washington and initiated the process that eventually brought formal recognition of the cold war. The services immediately developed a major interest in determining a military strategy that would be effective in meeting the Soviet threat.

The staff of the Chief of Naval Operations, FADM Chester W. Nimitz, prepared the Navy's contribution to a report analyzing Soviet-American relations that was presented to President Truman. In the report the Navy reviewed the maritime developments in Soviet worldwide expansionism and predicted the continued growth of a Russian seaborne capability. As a response to the threat, the report called for a three-part foundation for U.S. naval strategy with six supporting actions:

1. A Western Hemisphere and Philippine Island defense.
2. Preparations for a unilateral defense, although acknowledging the possible support of allies.
3. Maintenance of a balanced fleet as a component of the overall U.S. military establishment.

4. Supporting actions:

   a) Provision of naval support for U.S. troops overseas.

   b) Maintenance of mobile striking forces--in particular carrier task forces--in both the Atlantic and Pacific.

   c) Maintenance of "sea lines of communication" to the Far East, to Britain, and through the Mediterranean.

   d) Formulation of a coordinated naval policy with the British Commonwealth, particularly emphasizing cooperation in the Mediterranean and Near East.

   e) Arctic training and preparation for U.S. Navy ships and personnel, especially aircraft and submarines, as a defense against possible Soviet penetration of North America.

   f) Emphasis on maintaining an adequate naval intelligence system. [Ref. 2: p. 26]

Independently of the report prepared for Truman, the JCS had worked up a set of tentative plans code-named "Pincher" that provided more or less an outline of military activities that would be necessary to win a war with the Soviet Union [Ref. 14: p. 219]. VADM Forrest Sherman, Deputy Chief of Naval Operations (Operations) led the Navy's efforts to define the maritime situation and establish a basic strategy for the employment of naval forces against the Soviets. Ultimately, Sherman also gave a report of the Navy's contribution to Pincher to President Truman. Sherman started his presentation with a review of what the intelligence community had to say about Soviet capabilities. He went on to outline the expected Soviet agenda for conquest during a war and then presented what the Navy saw as the necessary American response.

In outlining naval responsiblities, Sherman identified nine as most essential:

- To protect the United States
- To control essential sea and air communications;
- To evacuate occupation forces from Europe;
- To assist in protecting the United Kingdom;
- To assist in holding Japan and in providing for the safety of forces in China and in Korea;
- To assist in retarding Soviet advances into Norway, Spain, Italy, Greece, Turkey, and towards Suez;
- To place the Army Air Forces in positions to initiate an air offensive as soon as possible;
- To prevent Soviet use of sea lines communications; and,

- To seize and defend positions from which subsequent offensives might be launched.

Sherman went on to explain that the war could be divided into four distinct phases. The first phase would involve containing the Soviets as much as possible while mobilizing national defense to meet them. While this phase would necessarily be defensive, both the Air Force and Navy would take offensive actions as soon as possible. The second phase would involve the reduction of the Soviet war potential while the U.S. build-up continued. Advanced bases would be secured and transportation of forces to Europe would begin. The third phase would see the sustained bombing of Soviet forces and the seizure of limited footholds in Europe and the Middle East. The final phase would involve the systematic destruction of Soviet industry, internal transportation systems and general war potential. [Ref. 2: p. 30]

Sherman listed amphibious forces of higher priority than carrier air forces in his presentation due to the necessity of eventually establishing a beachhead in Europe. However, he credited the carrier forces with being the only method to provide a highly mobile and tactical air force at sea or in the coastal areas far from established air bases.

Sherman's description of a possible future conflict with the Soviets appeared very pragmatic and well reasoned. He rejected the idea of a war fought long distance with strategic bombers, but felt it would be a protracted affair that would entail mobilization, defensive actions giving way to offensive actions and the conventional concept of a war of attrition. Sherman cautioned that the nation's defenses must be kept highly trained and well supplied and that excessive reliance on "push button" and "Buck Rogers" equipment should be avoided. [Ref. 2: p. 31]

Subtly, Admiral Sherman's presentation initiated the process that would eventually result in another showdown with the Air Force over roles and missions. Sherman felt that a future war would not be much different than it had been in the past. It would still allow time for a degree of mobilization. It would require a tremendous national effort to provide the balance of forces necessary to defeat the enemy. Actually fighting the war would require the coordinated efforts of all branches of the military operating a tremendous variety of equipment, all of which would be essential for eventual victory.

The Air Force dissented from this view of the nature of a future war. It felt that war had been drastically modified by new technology and the concept of strategic bombing, that it would occur so swiftly as to prevent any opportunity for mobilization, and that a perpetually vigilant strategic force was required to serve as a deterrent to attack. Such an outlook left little for the Navy to do with its traditional role of sea control. Therefore, Admiral Sherman could not accept such a philosophy but persisted in his contentions that war would be protracted and would require a balance of forces.

In preparing his report, Admiral Sherman sought the advice of Captain George W. Anderson who was then serving on the Joint War Plans Committee of the JCS and asked for his views on the nature of a future war with the Soviet Union. Captain Anderson, who would later become CNO, presented Sherman with a ten-page document that pointed out new and interesting perspectives on a possible futuristic conflict. Anderson credited the Soviets with an extremely strong conventional capability that could overrun Eurasia, North China and Korea. He felt that the United Kingdom was particularly vulnerable to Soviet air attack and sea blockade, and so he supported a strategic air offensive against the Soviet Union as soon as the war started.

In supporting the strategic bombing of the Soviet Union, Anderson proposed the use of atomic weapons. He felt that the vast area, numbers of forces, and targets would be beyond the effective capability of destruction by conventional bombing. He therefore recommended that atomic bombs be made available for use against centers of government, industrial areas, and oil refineries from "both *carrier* (emphasis added) and land bases." [Ref. 2: p. 35]

As the concept of employing atomic weapons in war with the Soviet Union began to take root among naval strategic thinkers, the admission was made that the Russians too might soon have the atomic bomb. Captain (later VADM) Herbert D. Riley who served as assistant director of the Strategic Plans Division submitted a memorandum to his boss on the implications of such an event on World War III. He reasoned that the Soviet Union would not start a war until they had obtained nuclear weapons and, if that were the case, they would very likely initiate a conflict with the destruction of the United Kingdom. Such an attack with nuclear weapons would dwarf the impact of the Battle of Britain to miniscule proportions. The implications were that bases for the advanced deployment of B-29 bombers to England would not be available thereby prohibiting the initiation of strategic bombing by U.S. forces.[15] Riley

[15]In the immediate postwar period B-29's were the only available platform for

had worked on the Bikini Tests and had a healthy respect for the results of an atomic explosion. [Ref. 2: p. 38] His proposals were modest. Riley recommended that additional consideration be given to the defense of Britain against attack as well as the overall implications of the Soviet's possession of atomic bombs.

On the heels of Riley's memo came two from Rear Admiral Daniel V. Gallery, director of OP-57, the Guided Missiles Division of the DCNO (Air) organization. Although it is doubtful that he saw Riley's memo, Gallery prepared two memorandums for the Assistant CNO (Air) Rear Admiral J.J. Clark, where Gallery speculated on the Navy's role in a future war. In the first memo, Gallery proposed that the Navy could become the premier instrument for delivering the knock-out blow to the Soviet Union. He based this presumption on the possible loss of Great Britain under atomic attack from the Soviet Union. Such a move would prevent the Air Force from conducting any strategic bombing attacks on the Soviet Union and would place the Navy at the forefront as the only possible means of delivering atomic bombs on target.

Gallery criticized the B-36 under development by the Air Force as inadequate, vulnerable to inevitable improvements in fighter aircraft and still requiring vulnerable bases in England to complete their missions. He proposed that the Navy initiate work immediately on the development of a strategic bomber for carrier aviation. Aircraft carriers and a strategic bomber could establish the Navy as the premier atomic strike force in the U.S. defense community.

Gallery's second memorandum emerged three days after the first on 17 November 1947. In it he proposed that formal steps be taken to realign the roles and missions of the armed forces to give the Navy the primary mission of atomic weapons delivery supplanting the traditional role of sea control, which would be relegated secondary position. He proposed that the Air Force be given responsiblity for the defense of the United States from air attack with the strategic bombing as their secondary mission.

The unorthodox proposals in Gallery's memorandums were generally disregarded as "wishful thinking" by fellow naval officers. When they became public, the Secretary of the Navy, John Sullivan, and the CNO, Admiral Denfeld, disavowed their contents. However, while Gallery's observations and proposals were rash, they pointed out

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delivering atomic bombs. Their limited range required that they operate from bases in England in order to attack the Soviet Union. The Air Force was hard at work on the B-36 which would solve that problem. It was designed to take off from U.S. bases with sufficient range to attack the Soviet Union and return to England.

significant problems in accepted military strategy that needed to be addressed. The vulnerability of England to atomic attack and the subsequent impact on U.S. bomber bases there had generally been ignored by mainstream military leadership and the possibilities of naval aviation in a strategic nuclear role were certainly worth investigation.

In 1948 the Navy's General Board was still in operation after having been created in March 1900 to quell demands among naval officers for increased attention to strategic planning. However, the Board, recognizing that most of its planning duties had been assumed by the office of the CNO, could foresee its imminent demise. As one of its last contributions to naval strategic planning, the Board assigned a member, Captain Arleigh A. Burke, to prepare a study on the Navy's contributions to national security over the next ten years.

Burke worked on the study for six months before presenting it to the Secretary of the Navy on 25 June 1948. The study, among other subjects, addressed its views on a possible conflict with the Soviet Union, the nature of the conflict and the contribution that the Navy and naval aviation would make to that conflict. The study was, as a whole, much more conservative in flavor than had been Gallery's memorandums.

The study adopted a view of the Soviet Union complementary to that which had been espoused by Forrestal and Kennan. Russia was seen as dedicated to the eventual demise of the capitalist world albeit more immediately concerned with consolidating its position internally and its control over its immediate satellites. The study speculated that war would likely result from miscalculation or a direct and deliberate Soviet decision to challenge the U.S. in Europe. The possibility of a Soviet attack on the continental U.S. was postulated and was attributed to the frustration of the Soviets to advance their gains beyond what they held in Eastern Europe.

The study attributed the Soviets with the imminent capability to develop nuclear weapons and felt sure that they would be used in attacks on the continental U.S. in event of hostilities. Actions by the U.S. in response to Soviet aggression were spelled out:

- Continental and hemispheric defense,
- Preserving the security of Western Eurasia and restoring the balance of power,
- Destruction of the communist international network,
- Overthrow of the Soviet hierarchy,
- Liberation of the satellite states,

- Restriction of the USSR to pre-World War II borders, and
- The maintenance of American economic strength in order to prevent postwar chaos. [Ref. 2: p. 48]

Explaining that particular characteristics of the Soviet Union--its size, the dispersal of its factories and military forces--made it a difficult target even for atomic bombing, the study proposed that a significant effort be made by strategic planners to formulate plans that would provide the most effective utilization of atomic forces. However, the study also cautioned against an overreacting departure from conventional concepts of warfighting.

The study took a much more conservative attitude toward the employment of naval forces than had the Gallery memorandums. It did not propose that carrier aviation assume the responsibilities for land-based aviation either during the first stages of conflict or thereafter. The study proposed the use of carrier strike forces to maintain the freedom of the seas and to provide security for advanced bases. However, the study also discussed the impact of the Soviet submarine force and what its use could mean to the entire war effort. In that regard, the study proposed the use of atomic bombs as effective weapons against enemy submarine bases and gave the Navy primary responsibility for that mission.

Additional naval responsibilities proposed by the study included the seizure and defense of advanced bases and beachheads. Carrier aviation would prove vital in defending the sea accesses to advanced bases. The Navy was also tasked with controlling the sea lines of communication and the establishment of air superiority overhead. Finally, the study admitted that there would perhaps exist targets inside the Soviet Union that only carrier aviation could possibly attack. Such peripheral attacks would also serve to disperse enemy forces and reduce their concentrated attack at other points.

The study was careful to adhere as much as possible to the conventional wisdom of the day. It explained the unique contribution that could be made by the Navy and, particularly, naval aviation while emphasizing the necessity of cooperation with the Air Force in the overall air battle. The study did not propose that the Navy assume any role that had been previously reserved for the Air Force, nor did it challenge the capability of the Air Force to carry out its mission of strategic bombing. Rather, it proposed how the Navy and naval aviation might contribute to ensure the success of

the Air Forces's role by seizing and defending bases from which the Air Force would deploy.

The General Board's study was a sophisticated and detailed outline of the Navy's role in a future conflict [Ref. 2: p. 53]. Furthermore, the study was a response to an actual concern for the developing Soviet threat. The Board had not approached its job out of parochialism or in defense of the Navy and naval aviation. It had actually been an effort to establish a basis upon which naval strategic planners could build. Subsequently, the study provided just that. It was not widely recognized outside the service but did provide a broadly based imput in the Navy's strategic planning. [Ref. 2: p. 53]

Rejecting the drastic recommendations of Gallery, the Board had defined for the Navy a moderate and reasonable role in a future conflict that included the use of atomic weapons. A strategy had been proposed that did not seriously challenge the perceived role of the Air Force yet, provided a strategy for confronting a realistic appraisal of the threat. There was reason to believe that acceptance of such a Navy role was possible if not highly probable. Unfortunately, such was not the outcome. A struggle over budget restraints necessarily twisted the military services' orientation from addressing the external threat of the Soviet Union to a preoccupation with the internal threat posed by their respective and conflicting demands on the national economy.

C. ROLES, MISSIONS, AND STRATEGIC NUCLEAR POLICY

The Navy felt that the mission or function of a service should determine the limits of its operations and the systems employed to complete that mission. In accordance with that attitude, the Navy felt justified in adopting any weapon system or any operation that contributed to the overall effectiveness of its ability to complete the mission. Furthermore, the Navy was willing to allow the other services freedom in determining what systems they needed to do likewise.

The Army and Air Force maintained that the missions of the services should be determined by the element in which they operated or the weapon system that corresponded with the element in which they operated. In other words, the Army would operate land vehicles--tanks, jeeps, etc., the Navy would operate sea vehicles--battleships, cruisers, destroyers, etc., and the Air Force would operate all air vehicles--aircraft, rockets, and even space vehicles [Ref. 5: p. 22]. From this division in element of operation and weapons would their mission be derived. The Army would conduct

operations that required land forces, the Navy would conduct operations requiring sea forces, and the Air Force would conduct operations requiring air forces. None of the services would be allowed to operate out of their environment nor would they be assigned to, or allowed to pursue a mission that required them to operate beyond their element. [Ref. 5: pp. 63-64]

According to the Navy, the tremendous diversity of naval activity brought on by the capability to operate not only on the sea but above and below it as well naturally and legitimately led the Navy to develop a submarine force as well as an air force. The Army-Air Force philosophy, if carried to its logical conclusion, would have forced the development of a separate service for the submarine.[16] The Air Force wanted all aircraft under its control and would have restricted the Navy to operating ships. The Navy rejected any idea of restricting the means whereby a service could pursue that which was vital to its survival or that which contributed to the accomplishment of its mission. The Navy recognized that surface ships were vulnerable to attack by aircraft and that the best defense against air attack was an airborne defense. The Navy could not accept the idea of being restricted from operating an airborne defense which was vital to the survival of the fleet. The best defensive measure against Soviet submarines which also threatened the fleet was the patrol bomber. To place all patrol bombers under Air Force control and to force the Navy to rely on another service to provide the Navy protection seemed as ludicrous as it was dangerous, particularly when such a restriction was, in the Navy's opinion, a parochial fabrication.

It seemed much wiser, in the Navy's estimation, to assign the services missions and allow them to decide the strategy required to accomplish the mission, the tactics required to accomplish the strategy, and weapon system most capable of executing the tactics. Assigning weapon systems first and basing the missions on the weapon systems would force the services to exercise a degree of cooperation that was artificial, counter-productive, and cumbersome.

The Navy did not intend to usurp the traditional responsibilities of the other services. Although Captain Gallery had proposed just that, it had been rejected by the mainstream of naval thought. The conclusions of the General Board study clearly recognized the primacy of the Air Force in strategic bombing, and would have concentrated Navy efforts in that regard to anti-submarine warfare. It only

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[16]Admiral King expressed his fear that along with naval aviation, the submarine forces would be taken away from the Navy and made a separate service. See Vincent Davis, *Postwar Defense Policy and the U.S. Navy, 1943-1946.* p. 231.

moderately acknowledged the potential contribution of naval aviation to strategic air warfare. However, the Board did mean to emphasize the nature of future warfare and the necessity of balanced forces.

Three years earlier, Vice Admiral Arthur W. Radford, the Deputy CNO (Air), had already provided a very articulate summation of the Navy's position and the direction to which it was committed.

> The Navy entertains no desire to encroach on the proper functions of the Army Air Forces whether there be one, two, or three military departments of the government and regardless of the state of the autonomy which the Army Air Forces enjoy within the present structure of the War Department. The Navy does not contemplate: the creation of a land-based strategic bombing command; developing a land-based fighter force for the defense of the United States or of major outlying bases; building a tactical air force for land campaigns; or maintaining a competitive transport service. These are not nor have they ever been the intentions of the Navy. As is well-known, however, a most important part of the Navy is its air arm, complete and adequate, to fulfill naval missions. It includes aircraft based on ships, tenders, seadromes, or fields; with any type of landing gear--floats, wheels or skis; powered by any type engine--reciprocating, turbine, or jet; carrying any type of useful weapon--gun, rocket, torpedo, bomb, mine, or atomic explosive. We intend to take full advantage of scientific research and development applicable to air warfare including guided missiles and pilotless aircraft. We will continue to coordinate our enterprises with those of the Army in anticipation that each service will benefit by the progress of the other; unwarranted duplication will be avoided but no promising field of aeronautical science or tactics will remain unexplored. Our aircraft will continue to be manned by pilots, aircrewmen and technicians who will be unexcelled by any other in the world. [Ref. 2: p. 66]

In his remarks, Radford expressed the Navy's intention to pursue whatever development was necessary to accomplish the Navy's missions. He did not indicate any plan to displace the role or mission of the other services. The Board's report complemented what Radford had said years earlier. The Navy was not confining itself to a single weapon system nor to a single strategy. Even while pursuing a nuclear role, the Navy remained committed to a balanced fleet and a traditional strategy. Following this line of reasoning the Navy refused to accept strategic bombing, with or without nuclear weapons, as the single foundation of national military strategy.

As has been stated, the Navy adhered to a concept of four phases in a future war with the Soviet Union. First, defensive holding actions and national mobilization; second, offensive actions around the periphery and establishment of forward bases; third, major offensive actions directed at the Soviet homeland and invasion of occupied territory; and, fourth, the concentrated destruction of the Soviet warmaking potential.

The Navy's perception of strategy for a future war harmonized with traditional concepts of warfighting. Each phase required the employment of all allied military

forces, each with their own valuable contribution to the overall war effort. Winning the war would require the traditional application of *balanced* forces. The Navy saw its role in a future war as having expanded more in depth than in concept. The naval role would still consist of the traditional elements of naval strategy--sea control, and power projection. The Navy would convoy forces to the war area, would provide logistical and air support of land forces, would engage the enemy on the seas, and would project naval power inland against enemy forces. However, the capabilities of naval aviation, both land-based and carrier-based, had greatly extended the range at which the Navy could carry out its missions. Particularly extended was the range at which naval forces could engage the enemy over land. The capability had been developed to utilize naval forces in a strategic role to interdict the enemy's warmaking potential.

The Navy felt perfectly justified in exploiting its new capability as a contribution to the overall war effort, not to usurp the primary responsibility of the Air Force, nor at the expense of other necessary tactics. Rather, the Navy saw strategic bombing and, particularly atomic strategic bombing, as a capability that the Navy had to integrate into its traditional strategies in order to defeat the threat. For example, the Soviet submarine force and its bases were targets that demanded the employment of an atomic bombing capability.

Certainly, some naval officers particularly intimate with the details of the roles and missions controversy with the Army and Air Force saw nuclear strategic bombing as a vital adjunct to the struggle for maintaining the viability of the Navy. Atomic bombs had indeed changed the nature of warfare albeit the extent of which was debatable. In light of these still unknown consequences those officers who were involved in defending the Navy against its critics felt that the Navy required an atomic strategic bombing capability in order to justify its existence and maintain its credibility as a vital element of national defense. However, although it provided the Navy a strong position in the roles and missions debate, to say that is why the Navy developed a strategic bombing capability in concert with the adoption of atomic weapons would not be correct. First, the officers who brought about the development of the Navy's strategic nuclear bombing capability, particularly Commanders Hayward and Ashworth, were too junior to be involved in the roles and missions struggle with the Air Force [Ref. 2: p. 77]. While they undoubtedly were well aware of the Air Forces efforts to dominate atomic bombing they were not involved in Congressional hearings and public wranglings on the subject. Secondly, had the Navy leadership perceived the

atomic bombing role as anything more than just another new development for incorporation into naval forces, it would not have occured at the half-hearted pace at which it proceeded. It took five years, from 1945 to 1950, for the Navy to accomplish the minimal things required to deploy an initial nuclear delivery capability.

The Navy pursued a strategic nuclear bombing capability for its contribution to the capability of it forces, and secondarily used that capability to justify to Congress and the President its contribution to national defense. In conjunction with its moderate attitude toward nuclear weapons, strategic bombing itself was an outgrowth of Forrestal's leadership at directing the Navy's attention at the Soviet threat as well as other international threats to world peace. By altering the Navy's historical predilection for ignoring Europe and combining that with the extended range of naval aviation, Forrestal led the Navy to recognize a strategic capability as another mission of its regular forces. Combining these elements in a whole, one sees that a strategic nuclear capability was developed and implemented as a contribution to traditional naval strategy and forces. While the impact of the atomic bomb was respected, in the Navy's mind it did not alter the value of a well-balanced fleet nor the necessity for a well-balanced national defense.

The Air Force's plans for a future war were markedly different from those of the Navy. They divided the phases of war into three parts:

- the "Build-up Phase" or mobilization of strategic, sea and land forces;
- the "Decisive Phase" involving strategic attack upon the enemy using atomic weapons from both overseas and U.S. bases;
- the "Exploitation Phase" consisting of tactical operations to consolidate the gains made by strategic attack, i.e. "mopping up". [Ref. 2: p. 86]

The Air Force's strategy for war clearly reflected their belief in the role of strategic bombing in warfare. All other traditional warfighting strategies were secondary if not unnecessary altogether. They were fortified in their belief by their own interpretation of the lessons of strategic bombing in World War II, although the Strategic Bombing Survey cast doubt on the actual benefit that bombing had played in the war [Ref. 14: p. 309]. In fact one analyst suggested, ". . . there is much in the history to suggest that the Army Air Force may have sacrificed almost as many lives (its own and others') to its dogmatic faith in *independent air power* as to the conquest of the nation's enemies." [Ref. 10: p. 257] Nevertheless, the Air Force persisted unremittingly in its convictions.

The difference in Air Force and Navy strategic nuclear strategies contributed to the third roles and missions controversy between the services. The disparity between the Air Forces's and Navy's philosophy on strategic bombing led to a misunderstanding that amplified the hostility still lingering from their previous disputes over roles and missions. With its strategy of warfighting based upon the preeminence of strategic nuclear bombing, the Air Force interpreted the Navy's acquisition of a strategic nuclear role as an attempt to usurp the responsiblities of the Air Force. This was far from the truth. The Navy expected its strategic nuclear role to complement its other naval activities, particularly anti-submarine warfare. The Navy had no intention of achieving a strategic nuclear role of proportions that would challenge the Air Force. Despite the fact that this was publically expressed both by Radford [quoted above] and by Navy Secretary Forrestal [Ref. 5: p. 57], the Air Force did not believe it. It perceived the Navy's desire for a new class of "flush-deck" carriers as a blatant effort to promote the Navy's role in the air offensive and the delivery of nuclear weapons [Ref. 2: p. 106].

Consequently, the argument between the services became two fold. On one hand the Navy disagreed with the Air Force's single-minded promotion of strategic nuclear bombing. While on the other, the Air Force accused the Navy of itself trying to dominate strategic bombing.

The difference of opinion over the role of strategic nuclear bombing became more acute as an understanding of the consequences of a nuclear war developed. The Navy began to question the actual utility of nuclear bombing in and of itself. This went beyond whether or not it had displaced traditional warfighting strategies and tactics, something upon which both services bitterly disagreed. The Navy began to question whether nuclear bombing should actually be used at all.

The Strategic Bombing Survey had suggested that the use of strategic bombing was inhumane [Ref. 14: p. 309]. The Navy went beyond this to question whether nuclear bombing might be worse than inhumane and actually "immoral" [Ref. 14: p. 309]. Whether or not the struggle between the services and the apparent futility of the Navy's efforts to defend itself brought on the change of attitude toward the employment of nuclear weapons or whether it was prompted by an actual questioning of the morality of the bomb is difficult to say. Regardless, the Navy began to propose that reliance on a strategy of nuclear bombing was not only militarily inept but morally wrong. Believing sole reliance upon the atomic bomb was militarily foolish, the Navy

concluded that use of the bomb was therefore morally wrong. The Navy developed a sophisticated argument to support the growing conviction of their stand. Ironically, it was Rear Admiral Daniel V. Gallery who had earlier written a very intense memorandum supporting the Navy's acquisition of a strategic nuclear role who now presented a case against the use of nuclear bombing. The reasoning was as follows:

- The purpose of war, in harmony with the teaching of Von Clausewitz, is to impose the victor's will upon the vanquished.
- For a nation with the moral character of the United States, war cannot simply be to achieve the total destruction of the enemy, but must be oriented toward allowing the U.S. to impose its will upon the enemy and thereby establish peace.
- Military planning that included the massive use of atomic weapons seemed to be aimed at the single-minded goal of not losing the war.
- It "not losing the war" were the only goal, then the use of atomic weapons would seem appropriate.
- However, such an attitude of "not losing the war" contradicts the purpose of war, and would establish a post-war environment as difficult to deal with as the war. It would leave unprecedented damage costing staggering sums to rebuild and an alienated populace to threaten the establishment of international goodwill upon cessation of hostilities.
- Finally, a strategy based upon the sole object of preventing defeat is a strategy of weakness and desperation, unworthy of the United States. [Ref. 2: p. 130]

The Navy's indictment of strategic nuclear bombing continued with a memorandum from Captain Arleigh Burke questioning whether a strategic air offensive against Soviet city targets would have any appreciable effect on their formidable land forces that would be invading Europe and the Middle East [Ref. 2: p. 131]. Burke went on to recommend that whatever action the U.S. took against the Soviet Union must show consideration for post-war consequences.

The immorality of strategic bombing was presented in its purest form by a paper responding to the debate on the new Air Force bomber, the B-36. Rear Admiral Ralph Ofstie drafted the following in August 1949:

> This matter of genocide has not been squarely faced. It is time that strategic bombing be examined relative to our own American principles to the decent opinions of mankind, and to the traditions of civilization. There has been a great deal of talk about "survival in the air age." Survival of what? If we mean the bare and simple physical survival of American lives, the answer is easy. Do not fight at all. But if we mean the survival of the values, the principles, and the traditions of human civilization, we must insure that our military techniques do not strip us of our self-respect. If we consciously adopt a ruthless and barbaric policy towards other peoples, how can we prevent the breakdown of ethics and morality in our domestic affairs? The concept of indiscriminate atomic attacks on non-military targets undermines our accepted values and if it is initiated may destroy them. [Ref. 2: p. 138]

Ofstie went on to proposal a more traditional approach to solving the security problem of Western Europe. He proposed defending Europe with naval forces, tactical air forces, and strong European armies--all of which reflected the Navy philosophy of a balanced military force.

The Navy was partially supported in its contentions by a report prepared by Lieutenant General Hubert Harmon who had been commissioned by the Secretary of Defense to address the effect of a nuclear blitz attack on the Soviet Union. The Harmon Report doubted the effectiveness of atomic bombing in actually stopping the Russian army or demoralizing the Russian national will. Rather, the Report speculated that such bombing would solidify the support of the populace behind the Soviet government and create tremendous post-war hostilities toward the West. Oddly, the Report concluded, despite its own speculations, that the rapid and extensive use of atomic bombing might still help win the war. [Ref. 27: p. 16]

The Navy had recognized its strategic bombing capability and had pursued the development of a nuclear attack bomber both to enhance the effectiveness of its forces as well as to remain "competitive" in the atomic age. However, the Navy could not accept strategic bombing as anything more than just another tactic to be employed in support of an overall strategy. As a tactic, the Navy was ready to accept it; but as a single strategy it was deemed militarily unacceptable and therefore immoral. The Navy had participated in testing the atomic bomb and clearly recognized the revolution in destructive power that it brought on. For the very reasons that some felt the atomic bomb essential for modern war, the Navy began to reject it as unusable. The indiscriminate and destructive capability of the atomic bomb was too extreme for many in the Navy to accept. Ironically, the same elements made it attractive to the Air Force.

For the Air Force the atomic bomb represented two things: first, a unique weapon whose characteristics supported its strategic bombing philosophy; and second, a valuable argument for its supremacy as a military service. The destructive capability of the bomb complemented strategic bombing by making all other military forces seemingly obsolete. And its indiscriminate nature, as with strategic bombing, was capable of breaking the enemy's will to fight. It was the ideal weapon for the Air Force. The indiscriminate destructiveness of the bomb, and later, its relative economy, would cause it to become the foundation of the entire U.S. national military strategy.

D. THE DEFENSE BUDGET AND THE FLUSH-DECK SUPER CARRIER

Late in 1944, Admiral Marc Mitscher, while commanding Fast Carrier Task Force 38 off Leyte in the Phillipines, had recommended to then Secretary of the Navy Forrestal that plans be made to build a new class of larger carriers [Ref. 5: p. 30]. The idea for the carrier had nothing to do with atomic weapons. Mitscher recommended that the carrier accommodate larger, heavy bombers and the new jet aircraft that were currently under development. Part of his plans included a modification in carrier design that would remove the island structure from the flight deck.

> . . . it is believed that these existing carriers [CVB] approach the ultimate in basic design under existing limitations. Foremost among these limitations is the island structure. This structure places a definite restriction on the size of aircraft which may be operated. The foreseeable future may well find that this limitation is unacceptable. Therefore it is considered that our thoughts as to carrier design should include design and construction of a flush deck type. [Ref. 28: p. 322]

As it was finally designed, the flush-deck carrier would displace 80,000 tons fully loaded. It would have two catapults on the forward bow and would be the largest ship ever built. Her reinforced decks would allow her to operate planes weighing 100,000 pounds. She would cost $124 million and take forty-six months to build.

The plans for the flush-deck carrier sat idle under budgetary restraints until the passage of the National Defense Act of 1947. Under the Act Forrestal was elevated to the position of Secretary of Defense and his position as Navy Secretary was taken by John L. Sullivan who had been Under Secretary of the Navy. Sullivan was committed to the Navy as much as had been Forrestal. On assuming office, Sullivan resurrected the plans for the new carrier and committed himself to seeing their completion [Ref. 29: p. 470].

Work was already underway to reinforce the decks of some existing carriers to carry the P2V and then the AJ-1. Commander Hayward had already prodded the Navy into committing itself to the slow development of a nuclear role. Sullivan was told by the chief of the Bureau of Aeronautics that Forrestal had already asked President Truman to authorize facilities in carriers for delivering atomic bombs. Upon that approval the path was clear to give the new carrier all it needed to have a nuclear capability. However, Sullivan's plans for a new super carrier were interrupted by budget restrictions pressed upon the services by the fiscal austerity program of President Truman.

The military budget of 1946 had been $45 billion. In 1947 it was cut to $13.1 billion and in 1948 to $13 billion. [Ref. 30: p. 359] The Navy was laying up ships in mothballs, and discharging personnel throughout the period all as part of demobilization. However, by late 1947 the situation was rapidly changing.[17] The Navy had reduced itself to what it felt it needed as a minimum and was not inclined toward further reductions. The wartime high of 115 carriers was reduced to just 11 large and 10 escort carriers. To go any lower would have threatened national security--particularly in light of the increasing hostility between the U.S. and the Soviet Union. [Ref. 31: p. 122]

In late 1947, as deliberations in the Navy began over the 1949 military budget, Sullivan was told that to keep the super carrier in the Navy's building program, he would have to cancel the construction of thirteen other ships that had not yet been completed. Sullivan agreed, although it hurt the Navy's principle supporter in Congress Carl Vinson, who had worked hard to put the thirteen ships in the budget. [Ref. 5: p. 74] Construction of the new carrier was finally approved by Congress on 25 June 1948. Early the next year, Truman agreed to name the ship *United States.*

The Air Force was not silent on the issue. The National Security Act of 1947 did little to put an end to the rivalry of the services even though it had created an independent air force. Now, after achieving its goal, the Air Force was not content with the extent of unification brought about by the Act. Although the Act had centralized civilian command of the services, it had not settled the matters of missions and roles to the approval of the Air Force. (See Appendix B) After the Act was passed, President Truman issued Executive Order No. 9877 (See Appendix C) under pressure from the services to provide further clarification on the definition of their individual roles.

The Air Force was still not satisfied. The development of the super carrier seemed to the Air Force to be a clear indicator of alleged Navy intentions to squeeze the Air Force out of its primary role, that of strategic bombing. The super carrier had passed through the roles and missions controversy relatively unscathed until the "leak" and publication of Rear Admiral Gallery's memorandums advocating that the Navy's carrier aviation assume the Air Force's role in strategic bombing. The Air Force then identified the new carrier as the embodiment of the Navy's efforts to take over strategic

[17]The Truman Doctrine was announced in March and the Marshall Plan in June of 1947, both articulations on the Cold War.

bombing. Admiral Denfield renounced Gallery's memorandums in a futile attempt to return the super carrier to relative anonymity, but it was too late. The Air Force had perceived the carrier as a threat to the strategic bombing role as well as a new competitor for budgeted funds. There seemed little possibility for the Air Force to get 70 air groups while the Navy was building and equiping super carriers. [Ref. 29: p. 481].

Both the Air Force and the Navy responded to the rivalry with bitter public attacks upon each other through newspaper interviews and magazine articles. Secretary of Defense Forrestal initially forbade the services from publicly attacking each other, and then called the service chiefs to a meeting in Key West, Florida on 11 March 1948 to try and straighten things out. The result eventually became Executive Order No. 9950 that replaced No. 9877 as a definition of the service's roles and missions. The meeting in Key West guaranteed the Air Force dominance in strategic bombing but also continued to support the Navy's role in aviation. It also supported the building of the super carrier and refused to deny the Navy the use of the A-bomb. [Refs. 31,5: pp. 122, 68]

Unfortunately, the Key West meeting, although followed later by an identical meeting in Newport, Rhode Island, failed to curtail the interservice rivalry. Even as Forrestal was preparing the press release on the results of the Key West meeting, he was put on notice by the Air Force Chief of Staff, General Carl Spaatz. While Spaatz concurred that the meeting had arrived at an agreed interpretation of the services roles and missions as outlined in the National Security Act, Spaatz did not agree on the principle of the interpretation or the substance of the Act. [Ref. 29: p. 475] He intended to pressure both publically and privately for amendments to the Act that would increase unification.

The extremely restricted budget was the principle element that kept the rivalry alive, although not it cause. The President promulgated the Truman Doctrine which expanded the services' worldwide commitments yet he refused to budget the money necessary for them to carry out those commitments. In the Navy's particular case, the Navy felt obligated to support naval operations in the Eastern Mediterranean to counter Soviet moves in Greece, Turkey and the Middle East. However, it could not be done on the funds allocated. The Navy was forced to contract its overseas operations just as it was forced to reduce the number of operating aircraft carriers.

The Air Force, as supported by the Finletter Commission's report on 1 January 1948, *Survival In The Air Age, A Report by the President's Air Policy Commission*, insisted on 70 air groups. To get that, it recommended cutting the Navy to four aircraft carriers if not retiring them altogether. The Navy was intent on building the super carrier and recommended cutting the Air Force to ensure funds would be available.

Congress was frequently at odds with the President. It authorized $822 million in additional funds in 1948 to allow the Air Force to proceed with building its 70 air groups. Truman impounded the funds. [Ref. 5: p. 82] Each of the services badgered Secretary Forrestal to pressure Truman for more funds. Truman had set the 1950 budget ceiling for the services at $14.4 billion. Secretary Forrestal solicited spending requests from the services and committed each service to divide the funds evenly while remaining below the ceiling. In response, each service formulated its own budget and sent the total $30 billion request to Forrestal for him to reconcile with the President. [Ref. 29: p. 484] Forrestal struggled to convince the President to increase his allocations for the services but to no avail.

The President was subjected to repeated presentations by the various services bemoaning their situation. They had determined that under such budgetary restraints, the only defense and warfighting option available in a war with the Soviet Union would be to conduct strategic nuclear bombing attacks from bases in England. There was not enough money in the defense budget to build and maintain a forward defense, or to carry out what they interpreted to be their responsibilities under the Truman Doctrine. Truman seemed unperturbed. In fact, he ordered Forrestal to make further cuts. Truman was determined that domestic needs should be met first while the military would have what remained.

The pressure upon Forrestal eventually became too great. He requested to be replaced at the end of March 1949. James Forrestal, who had been such a profound and positive influence upon the Navy, collapsed from nervous exhaustion after his release from public service. His improving condition was cut short by a fall to his death from a hospital window on 22 May 1949. [Ref. 5: p. 128]

Truman had replaced Forrestal with Louis Johnson, a West Virginia lawyer, who nominated himself for the job. His fund-raising talents had provided Truman's whistle-stopping tour during the last presidential campaign. He was totally committed to unification of the services and was particularly hostile toward naval aviation and the

Marine Corp. Although he was Secretary of Defense, Johnson ". . .devoted himself not to war but to economy, where the interests of the administration and his own political future appeared to lie." [Ref. 10: p. 325]

Upon taking office, Johnson immediately set to work to clear away what he did not like in the services. He targeted the super carrier as one of those items. He requested the JCS's views on the new carrier and predictably received a divided opinion. Both General Hoyt S. Vandenburg, the Air Force Chief of Staff, and General Omar Bradley, the Army Chief of Staff, were against it; Vandenburg because the carrier was vulnerable to submarines, and Bradley because it did not fit into what seemed to be the results of the Key West and Newport conferences and because Russia was not a naval power. Admiral Denfeld, who had replaced Nimitz as CNO, supported the carrier:

> I am convinced that our present strategic position is such as to make it mandatory, the interest of national security, constantly to improve the capabilities of our naval forces. I do not agree that forces and weapons otherwise available in the foreseeable future would permit us properly to meet war conditions without effective, modern naval forces. It is axiomatic that failure to progress is to accept unwarranted deterioration of our strength. I consider that the construction of the *United States* is necessary for the progressive improvement of naval capabilities and is fully warranted as insurance to cover the unpredicted exigencies of the future. [Ref. 2: p. 117]

Secretary Johnson, seeing the vote of the JCS as two to one, issued a press release on Saturday, 23 April 1949 cancelling the ship's construction only two days after its keel had been laid at Newport News, Virginia.

Navy Secretary Sullivan was furious. He flew back from a meeting in Corpus Christi, Texas where he had received a telephone call informing him of the cancellation. He submitted his resignation to Johnson and bitterly complained that not only had the President already approved the carrier, but substantial sacrifices, thirteen ships whose construction had been stopped, had already been made to build the carrier. [Ref. 32: p. 6] Johnson readily accepted Sullivan's resignation. However, he used an earlier perfunctory resignation that Sullivan had submitted upon Forrestal's departure to respond to the media. [Ref. 29: p. 536] He stated that Sullivan had actually been unwilling to go along with unification and had already resigned as was evidenced by his earlier resignation. His opposition to the carrier cancellation was peripheral.

The cancellation of the carrier was heralded in the newspapers as a victory for the Air Force, which of course it was. The impact was devastating upon the

ambitions, plans and morale of the Navy. The entire course of Navy strategy had been directed toward the new carrier. Suddenly, the Navy could see itself being reduced to a negligible force of coastal patrol boats [Ref. 7: p. 210]. With the cancellation of the carrier, naval aviation came into serious jeopardy. Captain Arleigh Burke summarized the Navy's worst fears:

> It appears that one of the Air Force objectives is to take over the Navy's roles and missions of control of the sea. There are rumors that additional naval units such as Marine aviation, attack carriers, naval shore-based aviation units, amphibious units, etc., may be drastically reduced or eliminated, and also that there is a strong possibility that a National General Staff Corps will be created. If these rumors are based on fact, the Navy will be unable to perform its primary role of control of the sea. If this should come to pass, it is possible that the Navy's roles may be reassigned, all or in part, to one of the other services whether or not those services have the actual capability of carrying out those roles. [Ref. 5: p. 139]

Unfortunately, the tenure of Secretary Johnson brought with it other bad news. The worst crisis in Navy history was still to come. Johnson chose Francis B. Matthews to head the Navy as a replacement for Sullivan. Matthews had absolutely no experience with military matters much less with the Navy [Ref. 29: p. 470]. He had served in the USO during the war. His only allegiance was to Johnson, whom he fawningly supported. In the words of Admiral Radford, who would later serve as CNO in the Eisenhower administration, Matthew's "appointment as Secretary of the Navy verged on a national catastrophe." [Ref. 31: p. 176]

The projected military budget for 1950 was $14.4 billion which Johnson was committed to support. His game plan was the following:

- Transfer funds from the Navy to Air Force and give the Air Force total monopoly over strategic air power;
- Keep the Army at current strength;
- Reduce the Navy to an anti-submarine and transport force by halving funds for naval aviation;
- Reduce the number of heavy carriers to four, light carriers to eight, as well as other surface forces, and;
- Use the savings to quadruple the number of Air Force heavy bombers. [Ref. 5: p. 159]

The Navy was facing the nadir of its post-war status.

The Air Force was developing a new bomber, the B-36, upon which it were placing its entire effort and strategy. Johnson, in supporting the B-36, was more concerned about economy than national defense. He had been lured to the idea that reliance upon bombers carrying atomic bombs was cheaper and just as effective as maintaining a complete national defense establishment. He accepted the exact position touted by the Air Force.

The Navy began a campaign to salvage itself by disputing the military strategy inherent in a reliance upon the B-36 as the sole foundation for national defense. Johnson had combined the Air Force's confidence in the A-bomb, its indiscriminate and destructive character, and the economy of relying upon a single weapon system to form the entire basis for national defense. Such a single-minded idea had been the nemesis of naval planners since Billy Mitchell twenty-five years earlier.

When Congress began hearings in mid-August 1949 on the B-36 controversy, the Navy leadership erupted into what bordered on an "admiral's revolt." Despite Matthews' efforts to stifle them, admiral after admiral appeared before Congress and decried the treatment the Navy had received at the hands of the Defense Department. They bitterly criticized the civilian leadership, the B-36, strategic bombing, budget restraints, and, most of all, unification. Secretary Matthews was hauled before the Congress to answer the accusations. He answered by blaming naval aviators as "insubordinate, faithless, and guilty." [Ref. 5: p. 184]

Although the "revolt" did not resolve anything substantial, it did provide the Navy a public forum to vent the frustration it had felt for so long while under attack from the Air Force. The Chief of Naval Operations, Louis E. Renfield, was ultimately fired by Matthews for his outspoken contention that the Navy was being left out of the national defense structure. However, Congress ensured there was little other recrimination against those officers who had "revolted."

E. THE FOUNDATIONS OF A NATIONAL STRATEGY

The National Security Act of 1947 had attempted to force unity upon the services as well as establish a single and accountable chief through whom the President could direct national defense. Actually, the bill failed to do either. By leaving naval aviation in the Navy and creating an independent air force, the Act promoted or, at least, institutionalized the structure that would inevitably promote rivalry between the services. The Act tried in vain to prevent further rivalry by defining the functions of

each service. Unfortunately, the definitions were too vague and too unsatisfactory to prevent the ensuing arguments.

The Act did established a civilian point of accountability over the services but failed to give the Secretary of Defense the necessary authority commensurate with the responsibilities of his position. On 2 August 1949 Congress attempted to correct some of the faults in the original bill by passing the National Security Act Amendments of 1949. The new amendments demoted the individual services to military departments and no longer allowed them to go over the head of the Secretary of Defense[18] to appeal directly to the President. Under the Amendments, however, they could appeal to Congress after informing the Secretary. The Secretary of Defense replaced the Chairman of the JCS as the principle military advisor to the President. Finally, the individual service secretaries were deleted from the National Security Council which reduced them in authority below the Deputy Secretary of Defense. [Ref. 5: pp. 164-165] The Amendments did much toward correcting the structural faults that had hampered the efforts of the Secretary to establish control over the services. However, they did not resolve those elements that fostered interservice rivalry.

The conferences at Key West and Newport should each have ended the acrimony between the services. They spelled out as clearly as possible the separation in roles and missions that were to exist between the services, a separation that all the services agreed upon at both conferences. One has to ask why the rivalry continued. If the services had each agreed both at Key West and Newport on their own responsibilities, one would think that the matter had been solved. But it was not. The answer lies beyond the question of roles and missions. The real source of contention was not roles and missions but a conflicting perception of what should be the national strategy for the employment of the atomic bomb [Ref. 33: pp. 15-16]. The difference centered around reliance upon strategic nuclear warfare as the centerpiece of American warfighting and defense strategy. As James Forrestal wrote in his *Diaries*,

> It became clear that the area of disagreement between the services is not necessarily very wide but it is quite deep. It deals fundamentally with the concepts of so-called strategic warfare, and this boils down to use of the atomic bomb. [Ref. 17: p. 464]

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[18]The name originally assigned the unified structure for controlling the services was the National Military Establishment. The Amendments changed that name to the Department of Defense.

The difference in perceptions between the services was manifested outwardly by the controversy over roles and missions and was amplified by the struggle over the budget. In testimony before the House Armed Services Committee during hearings on "Unification and Strategy," Admiral Radford identified the essence of the difference in thinking. He was testifying on the dubious capabilities of the B-36 bomber:

> . . . The plane itself is not so important as the acceptance or rejection of the theory of atom blitz warfare which it symbolizes. It is fortunate that honest doubts as to the adequacy of the B-36 have served to bring this more vital issue before the country. . . I do not believe that the threat of atomic blitz will be an effective deterrent to war, or that it will win a war. I do not believe that the atomic blitz theory is generally accepted by military men . . .. In the minds of our citizens this fallacious concept promises a short cut to victory. Our citizens must realize that its military leaders cannot make this promise--that there is no short cut, no cheap, no easy way to win a war. [Ref. 31: pp. 181-182]

Year before, under the influence of Billy Mitchell, when the Army Air Corp began the embrace strategic bombing as its primary warfighting strategy and then, after World War II, promoted the threat of strategic bombing as a deterrent to aggression, it laid the foundations for what later became known as the strategy of Massive Retaliation. However, when the Air Force embraced strategic bombing as the single dominant method of warfighting, it adopted a strategy that violated the established principles of warfare. As Rear Admiral Gallery was to point out years later--the purpose of war was to impose the victor's will upon the defeated foe, and strategic bombing as a single strategy, could not do that. Strategic bombing could wreck havoc and destruction upon the enemy but if applied with conventional weapons, could not in all cases, as the Strategic Bombing Survey determined, cause his defeat. Even if applied with nuclear weapons against a country as broad and dispersed as the Soviet Union, there was serious doubt if it could bring about victory. The only thing it could do with great efficiency was cause tremendous destruction and kill millions of civilians, neither of which would necessarily impose defeat. Admiral Marc Mitscher summed up the Navy's position:

> Wars cannot be won without air power--strong air power--but I know of nothing in this past war which indicates that air power itself can bring an enemy to its knees. It is my firm belief that all armed forces are necessary to win a war. [Ref. 28: p. 335]

Ultimately, under the Eisenhower administration when the national strategy did become integrally tied to strategic nuclear bombing (at the expense of conventional forces), the U.S. found itself attempting to address Soviet low-intensity incrementalism with the threat of massive nuclear retaliation. While such a doctrine undoubtedly restrained outright Soviet aggression in Western Europe, as nuclear parity developed between the two superpowers, a stalemate emerged that decreased its utility in preventing low-intensity communist aggression. Massive retaliation, when the Soviets too could retaliate, implied virtual national suicide and, therefore, was not a logical response to limited conflicts. It was just this situation that the Navy foresaw, and which it struggled against in the controversy over roles and missions.

The Navy was committed to a balanced fleet of naval forces which included the integration of the nuclear bomb. In refutation of sole reliance upon strategic nuclear bombing, the Navy favored as well a balanced national warfighting capability and would have allowed each service to pursue those armaments that would best complement the achievement of its missions. Therein was the essence of the controversy over roles and missions. The agreements that had been reached in Key West and Newport did not solve the difference in fundamental outlooks toward a national strategy and so, the roles and missions debate continued unchecked eventually culminating in the "revolt".

The hubbub brought on by the B-36 hearings resulted immediately in little or nothing for the Navy. In fact, the 1951 budget proposed by Truman and sent to Congress in January 1950 held the defense budget to $13.5 billion, actually $1.2 billion less than the year before. More cuts were proposed for the Navy; for example--reducing the carrier force from eight large carriers to six, and dropping 31,000 men.

The fall of 1949 was the all time low in U.S. naval history in terms of morale and expectations for the future. Surprisingly, just as everything looked the worst, the Navy's situation began to improve [Ref. 7: p. 224]. In part this was brought on by the appointment of Admiral Forest Sherman to replace Denfield as CNO. Matthews and Johnson had both been discredited by the "revolt." Admiral Denfield, as a consequence of his earlier support for Matthews, lost the confidence of the Navy admirals. [Ref. 35: p. 56]. Then during the unification hearings, he reversed his position and spoke out in support of the "rebels," thereby losing the support of Matthews. Subsequently, he was of little use to either side. Sherman, his successor, proved a fresh start for both the Navy and its civilian leadership. [Ref. 29: p. 507]

Sherman had a reputation for being "pro-unification" which helped dispel suspicions that the Navy wanted to usurp the roles of the Air Force. Although his appointment was not initially popular with many naval officers, he proved his worth as a proponent of Navy interests by pressuring Congress for support of carrier aviation. [Ref. 36: pp. 20-21]

Congress developed a significant respect for Sherman who also enjoyed the President's favor. In fact, on 25 April 1950 Sherman asked the House Armed Services Committee for authority to build a nuclear-powered submarine, and a new sixty-thousand ton carrier. The Committee unanimously voted to add $350 million to the defense budget to start building an atomic age navy. [Ref. 5: p. 220]

The growing Congressional sympathy for the Navy and Sherman's excellent leadership enabled the Navy to weather the darkest period of its recent history and actually start to look with more optimism upon the future. However, the real rebirth of the naval service which began under Sherman had little to do with unification, Congress or the Navy's struggle to change the course of national strategy. It began on the Korean Peninsula 25 June 1950 when North Korean troops crossed over the 38th Parallel into allied controlled South Korea [Ref. 7: p. 225].

F. THE KOREAN WAR AND VINDICATION

While the Navy was presenting its case against strategic nuclear bombing, it was careful not to condemn every use of nuclear weapons. Simultaneously with its testimony against strategic nuclear bombing, the Navy was supporting the gradual adoption of a nuclear strike capability. Commander Hayward was assigned as the commanding officer of Composite Squadron 5 in December 1948 and given twelve P2V patrol bombers converted to carry the atomic bomb. The following August the Navy found itself before Congress condemning both the B-36 and the doctrine of strategic bombing. As has been pointed out, the Navy rejected strategic bombing not as a tactic but as the centerpiece of national strategy.

In reconciling its rejection of strategic bombing as espoused by the Air Force and its own pursuit of a nuclear bombing capability, the Navy sought a way to integrate nuclear weapons into its traditional perception of warfighting. The General Board study of June 1948, reviewed above, had defined for the Navy the form and fashion of adopting the atomic bomb into naval warfare. The Board suggested that the contribution of a naval nuclear capability could be divided into two basic areas:

primary missions of the Navy--anti-submarine warfare, and maintaining freedom of the seas, and secondary missions--striking those land targets beyond the capability of the strategic bombing forces of the Air Force. In this regard, the primary target of naval strategic forces would be submarine bases and enemy fleet concentrations. The secondary role would develop if the necessary forward basing for Air Force strategic bombers were not available or if there were targets geographically situated so as to require attack from carrier-based forces. This perspective on the employment of carrier aviation set the pattern for the role finally adopted for atomic weapons within naval aviation [Ref. 2: p. 52].

The course the Navy would follow was also foreshadowed by remarks made by Rear Admiral Ralph A. Ofstie to the House Armed Services Committee holding hearings on the general subject of "Unification and Strategy." Ofstie, who was supporting his contention that strategic bombing was ineffective, had been the senior naval member of the United States Strategic Bombing Survey. In his testimony, he drew from his own experience as a member of the Survey as well as that of the British Bombing Survey Unit.

> . . . strategic bombing campaign against essential war production did not have a decisive effect on the outcome of the war . . . [but in the case of Germany] the campaign against transportation targets . . . so reduced the mobility and logistic supply of the German armies that the offensive on land was immeasurably assisted. [Ref. 29: p. 523]

Ofstie was identifying the contrast between bombing effectiveness in the strategic versus tactical role. While he questioned the value of strategic bombing he clearly supported tactical bombing--referred to in his remarks as the bombing of "transportation targets."

Arleigh Burke added his voice in support of tactical air warfare when he wrote in 1949 that ". . . our emphasis should be upon a tactical air force so trained and equipped, and of a size, that it can paralyze the hostile communications." [Ref. 2: p. 131]

The most specific announcement of the Navy's tactical emphasis on the use of atomic bombing was drawn up by the Air Warfare Division (OP-55) directed by Rear Admiral Cruise. Its report, "Future Development of Carrier Aviation With Respect to Both Aircraft and Aircraft Carriers," came out during the height of the B-36 investigation hearings.

> It is believed that the Navy requires a limited number of long range heavy attack aircraft. It is considered that this type is not justified on a large scale because of its limited use and the penalties in carrier flexibility. At this point it is believed desirable to point out that much unfavorable publicity which Naval aviation has obtained of late has been due to controversies which have been occasioned by the Navy's insistence on being able to use the atomic bomb. Due to recent publicity coupling strategic air warfare and the Atomic bomb, the use of the Atomic bomb is generally considered synonymous with the term "strategic bombing." Such is not the case. It is not military practice to limit the employment of any one weapon to the fulfillment of any one function. The Navy is justified in using any available weapon to carry out its assigned functions. The Navy's use of the Atomic bomb would be *tactical* (italics added) in nature, not strategic. [Ref. 2: p. 173]

In accordance with its position on strategic bombing, the Navy embraced nuclear weapons as an adjunct to traditional naval forces. While the strategic use of the atomic bomb was rejected as the single basis for a national strategy, it was accepted as a tactic with some reservations, i.e., its ineffectiveness at achieving victory and therefore the dubious moral justification for its use. The Navy saw much greater utility in the atomic bomb's tactical use against enemy military forces than in its strategic use against population and industrial centers. [Ref. 37: p. 233]

Forrestal had been the first to open a strategic role for naval forces when he combined strategic bombing with naval aviation as a new mission for the aircraft carrier. Now, the advent of the atomic bomb and the Air Force's determination to make strategic bombing the national strategy caused the Navy to repudiate in part the role that Forrestal had created. The cancellation of the flush-deck super carrier and the Navy's failure to alter the course of national military strategy provided additional impetus for the Navy to readjust its thinking.

The gradual reevaluation in naval strategic thinking led the Navy to embrace the tactical use of nuclear weapons as the best form of their employment. Tactical nuclear weapons could be used in harmony with the traditional employment of other naval forces. However, the war the Navy envisioned to accommodate its new tactical thinking was not the same push-button intercontinental war envisioned by the Air Force.

Forrestal had sent the carrier task force to the Mediterranean in response to Soviet initiatives in third world countries and client states. He felt that Russian military strategy might not include the transpolar surprise attack on the United States feared by the Air Force. Instead he reasoned that they might not start a major war at all but would pursue slow steady piecemeal aggression "supported by political and economic measure, around the periphery of the Soviet homeland, especially in

Southern Europe, the Middle East, and China." [Ref. 3: p. 223] These limited confrontations were seen by Forrestal to be just as likely as outright Soviet aggression in Western Europe. The Navy leadership reflected Forrestal's thinking and testified at the congressional hearings on the need for a balanced military force to confront the entire spectrum of conflict in which the U.S. might find itself. The tactical employment of nuclear weapons, along with the other traditional forces, was seen as the best approach toward achieving a balanced military force.

President Truman, Secretary Johnson and the Congress generally rejected the Navy's arguments. The Navy attempted to forestall the shift in American military strategy toward a reliance on strategic nuclear bombing. However, the economic constraints of the Truman budget and the promises of strategic air warfare to save American lives while keeping the war over the enemy's homeland induced the U.S. leadership to progressively concentrate U.S. military strategy on strategic nuclear bombing.

In June 1950 Secretary Johnson and General Bradley (chairman of the JCS) took a thirteen-day inspection tour of the Far East. While visiting Japan they found Rear Admiral Doyle there with an amphibious training unit. Amphibious operations had been derided by Bradley during the unification debates as an archaic concept that would never occur again in modern warfare. [Ref. 38: p. 19] When finding that Doyle was there at the request of General MacArthur to provide amphibious training to units of the Eighth Army, Bradly was scornful. [Ref. 5: p. 232]

The invasion of North Korean troops into the south on 25 June eventually brought recognition to the validity of the Navy's position and accomplished two things--both of which directly favored the Navy. First, it invalidated all but a few of the popular assumptions touted by the Air Force on the nature of future conflict and how it would be decided. Secondly, the Korean conflict opened the federal budget to more realistically address the worldwide commitments of the military services. [Ref. 7: p. 225] Forrestal's position on the world-wide threat of low intensity conflict seemed to be born out by the Korean conflict. Although, initially many thought the Korean invasion was a prelude to a general Soviet attack on Western Europe [Ref. 10: p. 330]. However, as the war dragged on it was realized to be a conflict entirely different than that expected.

The Air Force found itself unable to support the war on par with naval air forces. The Army clearly preferred naval and Marine air support over that of the Air

Force, if for no other reason than the fact that they could stay on station much longer than their Air Force counterparts who had to fly over from Japan. [Ref. 5: p. 242]

The Inchon landing proved that amphibious operations could be as essential to military operations in the atomic age as they had been in World War II. However, as much as the lessons of the conflict seemed to totally vindicate the Navy's position, another interpretation was made. In fact the lessons of the war both refuted and supported what the Air Force had been saying about strategic bombing. The Air Force had no strategic role in the Korean war and found itself deficient in meeting the combat requirements of the war. But, the potential capability of the Strategic Air Command to carry out a devastating nuclear attack upon the Soviet Union perhaps kept it from taking advantage of the Korean diversion to attack in Europe or overrun Berlin. Chief of Staff of the Air Force, General Vandenberg, stated that American air power "is the single potential that has kept the balance of power in our favor. . . (and) has kept the Russians from deciding to go to war." [Ref. 5: p. 261] General Maxwell Taylor went so far as to say that "the ultimate effect of the Korean experience, oddly enough, was not to weaken faith in atomic air power but rather to strengthen it." [Ref. 34: p. 16] In that regard it was not the *actual* use of strategic nuclear bombing that proved useful, but the *potential* use that served as a deterrent to Soviet action.

Nevertheless, the general interpretation of the lessons of the Korean conflict supported the Navy's contentions that the U.S. should maintain a strong military response across the board and not rely on the threat of strategic nuclear attack to halt communist expansionism. Certainly in Korea strategic bombing was of little use and in that regard there could be little argument with the Navy's position.

The principle fuel for interservice controversy, the tight military budget, evaporated. From a 1951 defense budget of $14.4 billion, Truman expanded his 1952 defense budget to $60.6 billion. No longer forced to struggle with a penurious President and Secretary, the services postponed further interservice wranglings until after the war.

In the fallout resulting from the surprise invasion of South Korea, Secretary of Defense Johnson was blamed for the pitiful shape of U.S. military preparedness, although it had been Truman and Congress who had forced cuts upon the services [Ref. 5: p. 244]. Johnson was fired by Truman in September and was soon followed by his naval secretary, Matthews. They were replaced by George Marshall, who had just retired from the Army and Dan A. Kimball, the Under Secretary of the Navy, respectively.

The interjection of money brought on by wartime spending is best represented by Carl Vinson's "Atomic Navy" bill that called for 125 new ships, including an atomic-powered submarine, a guided missile cruiser and a new super carrier--later named the *Forrestal.* The *Forrestal* was soon followed by a second carrier, the *Saratoga.* [Ref. 5: p. 300] Seemingly, the Navy had survived its darkest hour and was suddenly heralded as a vital and worthy contributor to national defense. Ironically, the Korean War had reestablished in the nation's mind the value of a powerful naval force even in the atomic age--something the Navy had not been able to do on its own. The historical legacy of "feast or famine" in congressional and public support for the Navy apparently obtains even in the nuclear age.

VII. MASSIVE RETALIATION

A. A "NEW LOOK" AT STRATEGIC DOCTRINE

Dwight Eisenhower was elected on the strength of his personal popularity and his promise to end the lingering conflict and truce negotiations in Korea. As soon as he was elected, President Eisenhower initiated a "New Look" at the nation's strategic nuclear policy and reaffirmed strategic nuclear bombing as the foundation of the nation's defense. Although the lessons of the war should have been enough to discredit strategic nuclear bombing [Ref. 34: p. 5], Eisenhower adopted the threat of massive nuclear retaliation by nuclear bombers as a deterrent to Soviet aggression. In the words of one critic, General Maxwell Taylor, Eisenhower's New Look was nothing more "than the old air power dogma set forth in Madison Avenue trappings and buttressed upon Massive Retaliation as the central strategic concept." [Ref. 34: p. 17]

Eisenhower was concerned that spending on defense would bankrupt the economy. The crash program to rebuild the nation's armaments that had started as Truman's response to Korea was revised by the President to be extended over the "long pull" to take ten or twenty years [Ref. 10: p. 339].

His "New Look" was not in any real sense a reexamination of strategic policy as much as it was a euphemism for slowing down the expense of national defense. He defended himself by declaring that an expensive defensive posture would do little good if it ruined the domestic economy. The U.S. could not afford another war like Korea. Eisenhower felt that the Soviet goal was as much to drive the U.S. into bankruptcy through overseas entanglements as it was to defeat the U.S. militarily.

A correlative sentiment was also gaining influence--that of substituting "machines for men"--which was made increasingly possible by the incremental growth in science and technology [Ref. 10: p. 340]. The predilection in Congress to prefer a war as far from the U.S. as possible and endangering as few American lives as necessary found support through technology that promised a long-range war fought with machines and not men. However, the explosion of the Soviet A-bomb and the quality of MIG aircraft encountered in Korea were convincing proof that the Soviets were also technologically astute. Combined, the two above points foreshadowed a technological arms race. To stay ahead, the U.S. had little choice but to do what it was inclined to

do in the first place--concentrate on the technological answer to warfare. [Ref. 33: p. 25]

Eisenhower's New Look promoted and even demanded the accelerated application of technology to warfare as he sought for economy in defense. As Eisenhower said, "No longer could we afford the folly so often indulged in in the past, of beginning each war with the weapons of the last." [Ref. 39: p. 498] The foreseeable evolution would move from manned nuclear bombers to unmanned guided missiles to intercontinental ballistic missiles while gradually removing soldiers from the battlefield. The Air Force strategy of strategic nuclear warfare was the ideal expression of the New Look. The technological emphasis of aviation and the economy of atomic weapons were perfect complements to the course of strategy pursued by the President.

The logical assumption on the nature of war derived from a reliance on nuclear weapons as the expression of U.S. military power was another important aspect integral to the New Look strategy. It was felt that for the first time in history, war could actually be prevented. Whereas many efforts in the past--building walls, stockpiling arms, etc.--had been directed toward preventing war, they had invariably failed in their objective. The lessons of World War I and II had clearly shown that increased levels of armaments did little to prevent war if indeed they did not actually promote it. Tremendous arsenals of conventional weaponry only made war more horrible for the defeated. It did not make victory for an aggressor any less desirable. Armaments, therefore, did not serve as deterrents to war, but only as the instruments which made war possible.

However, the advent of the atomic bomb seemed to accomplish what defensive arsenals had been unable to do--prevent war. The "absolute" character of the bomb was purported to inexorably alter the nature of war. Atomic war was increasingly viewed by the American leadership as too horrible to contemplate, immoral in application, and futile as a warfighting strategy. The broad expanse of the Soviet Union did not lend itself to strategic bombing nor did its dispersed military structure. The atomic bomb could only exploit its full potential against population and industrial centers. While the Air Force thought this adequate to win a war, it was generally believed that such attacks could not really bring "victory" but only an end to hostilities at a horrible cost in innocent human life. Therefore, the atomic bomb was not viewed as warfighting instrument. It assumed a superior character. It was an instrument that could prevent war simply because of its horrible power. Whereas conventional

weapons had failed to preserve peace, the threat of atomic war removed aggression as a logical expression of national policy.

Upon this logical foundation of the new character of war brought on by nuclear weapons, Eisenhower built his strategic nuclear policy of massive retaliation. As long as the United States had the capability to threaten nuclear war upon the Soviet Union, aggression by the Kremlin would be illogical. An American monopoly on the atomic bomb would have buttressed the threat of massive retaliation. Nevertheless, Eisenhower was not dismayed by the growth of a Soviet nuclear capability. Initially, the Air Force pursued a numerical superiority in nuclear weapons--a move that seemed necessary to legitimize massive retaliation. Its continual drive for more and more strategic bombing air groups was rejected, however, by President Eisenhower who once again weighed the effect such a growth would have on the economy. He relaxed the requirement for nuclear superiority and decided upon a doctrine of "sufficiency." He reasoned only a limited and specific number of nuclear weapons was needed to support massive retaliation. The destructiveness of the bomb, even in finite numbers, was so great that a continual build-up would only result in overkill without a corresponding increase in effectiveness. It no longer mattered how many bombs the Soviets had as long as the U.S. maintained a "sufficiency." [Ref. 40: p. 60]

Eisenhower sought to encourage or, at least, preserve the economic growth of the nation by relaxing the fiscal demands of defense. He found a reliance upon nuclear strategic warfare as a national strategy to not only satisfy his requirements for economy but to also provide beneficial derivatives. *First*, air atomic warfare represented the cutting edge of warfare technology and was an arena in which the U.S. was felt to be highly competitive. *Secondly*, the warfighting inadequacies of the atomic bomb were more than compensated for by its "absolute" and destructive nature which made war illogical. The threat of a massive retaliatory attack upon an aggressor was deemed to be the quintessential deterrent to war. If nuclear weapons could deter war, then it did not really matter if they were valueless as warfighting instruments.

Eisenhower was satisfied that he had hit upon the answer to his objectives--massive retaliation. He sent forth his Secretary of State, John Foster Dulles, to expound upon the nation's strategy. Later, defending the strategy Dulles said:

> It was not intended a brandishing of nuclear weapons. Nor did it mean that the United Stated would drop nuclear bombs on Russia in reprisal for the outbreak of small-scale conflicts anywhere in the world. It was simply designated to make clear to the Soviets that if they attempted to take advantage of their

superior conventional military strength to try to overwhelm a strategic area like Western Europe, the United States would take advantage of its superior nuclear-delivery strength to defeat them. It was therefore designed to deter attack. [Ref. 41: p. 123]

Since the cancellation of the super carrier, the Navy had drifted further from a strategic emphasis and concentrated on the integration of nuclear weapons into a tactical capability [Ref. 2: p. 141]. With the first deployment of VC-5 to the Mediterranean aboard the *Coral Sea* in September 1950, the Navy possessed a limited nuclear strike capability. All successive deployments of *Midway* class carriers to the Mediterranean carried non-nuclear components for atomic weapons. The nuclear core components were to be flown from the U.S. to be assembled onboard the carrier as needed. [Ref. 2: p. 166]. The Navy appeared able to deploy its nuclear forces to suit its own needs and missions at its own discretion. The Air Force--which was tasked to provide the nuclear targeting plan to be implemented upon Presidential order--had refused to assigned any targets to the Navy. However, with the deployment of Captain Hayward and Composite Squadron 5 on the *Coral Sea*, the Navy did receive targeting assignments and has ever since had both nuclear weapons and targeting assignments onboard even if nuclear strikes were not its primary mission. [Ref. 3: p. 256]

As the Navy entered the early 1950's under the new administration of Eisenhower it possessed a well-balanced capability. The carrier had proved itself valuable in a conventional role, and yet with the AJ-1 Savage also had a nuclear strike capability. The Savage, although a less than satisfactory platform [Ref. 2: p. 176], did harmonize with the established principles of a balanced force--integral to Navy thinking.

The Navy maintained a heavy emphasis upon the defense of the carrier from airborne attack and the necessity of establishing control of the skies. Subsequently, the complement of aircraft on the carrier was heavily tilted toward fighter aircraft with far fewer attack bombers. Even with the attack bombers, the emphasis was not placed upon heavy bombers like the Savage. The reestablished dependence upon a conventional attack capability vividly demonstrated by the Navy's role in Korea relegated the Savage to a backseat position to the increasing recognition of the carrier's conventional usefulness--even in the atomic age.

During the early years of the New Look, Navy strategic nuclear policy remained stable. The Navy was ready to carry out a nuclear strike role if called upon. It possessed targeting assignments and nuclear weapons. However, the Navy did not

share the President's confidence in massive retaliation as a deterrent to war and was not so inclined to forget the tactical and strategic lessons of the Korean War. The threat of nuclear retaliation had not prevented the Soviet Union from supporting a North Korean invasion of the south. Neither had it been sufficient to stop the invasion once it started, nor did it serve to prevent the Chinese from entering the conflict once they felt their security was threatened. It had taken the traditional application of ground forces and conventional air support to stop the invasion and regain the offensive. The doctrine of singular reliance on nuclear weapons did not seem adequate. The Navy was much more comfortable with building and maintaining a strong conventional capability to meet what it felt were the more likely confrontations with communism. The Navy stressed its versatility to operate offensively in both environments--conventional and nuclear. [Ref. 40: p. 23]

The Navy's commitment to a balanced force therefore differed from Eisenhower's shift toward total reliance on massive retaliation. Two factors mitigated the level of conflict that could have resulted from the difference in strategic outlook. *First*, despite the avowed shift to massive retaliation, the emphasis in actual practice was not nearly so one sided. The Navy was still benefiting from the Korean Conflict buildup and was not in any serious danger of drastic reductions as had been experienced under Truman. Throughout Eisenhower's administration spending for national defense never dropped below $40 billion, an astounding sum considering Truman's $13 billion defense budget of 1950 [Ref. 30: p. 359]. With that amount of money being spent on national defense, the assertion that spending for conventional armaments was being short-changed for a dependence on nuclear weapons was hollow. In fact, the Navy ended the Eisenhower era with one-third more ships that it had at the end of the Korean war--which hardly provided legitimate grounds for complaint. The fleet of *Forrestal* class carriers was increased from two to seven and a whole new realm of naval activity was opened due to the development of the fleet ballistic missile submarine force and its integration into the national targeting strategy. [Ref. 42: p. 33]. The Navy, while disagreeing with the course of national strategy, was still able to meet most of its priority budgeting needs--ironically, because Eisenhower counted the carrier task forces as part of the nation's crucial "offensive striking power." [Ref. 27: p. 51] Not only was it continually improving its balanced capability, but the reluctance of the President to involve the nation in armed conflict helped to preserve both naval manpower and equipment that could have been wasted in combat.

Besides the negligible effect that the New Look was actually having upon the Navy, a second factor mitigating any negative reaction to the President was the leadership of Admiral Arthur Radford as Chairman of the Joint Chiefs of Staff. During the B-36 controversy, Radford had epitomized the ruthless partisan of Navy interests. In contrast to his predecessor General Omar Bradley who had tried to remain neutral on issues, Radford vigorously pushed his views upon the JCS and the President (although they were not always accepted.)

This is not to say that Radford promoted the continual buildup of the services; it was he who formulated the President's New Look policy [Ref. 40: p. 24]. Radford was willing to accept and support the shift to a new emphasis upon nuclear retaliation in order to economize upon national defense. Although this did not coincide with popular opinion in the Navy, his personal prestige was already well established and the resulting minimal negative impact of New Look upon what the Navy wanted for itself combined to easily persuade the Navy to accept the new strategy without opposition. In fact, once New Look had been fully adopted, the Navy found it advantageous to promote it--provided it included aircraft carriers as part of the offensive nuclear capability. CNO Admiral Carney spearheaded the Navy's qualified support of New Look by submitting a memorandum to the JCS specifically identifying the aircraft carrier as an integral element of the nations's overall offensive striking power. His memo was formally endorsed by the JCS on 5 February 1954. [Ref. 43: p. 268]

B. DIENBIENPHU AND THE CHALLENGE TO NEW LOOK

The Navy's skepticism over President Truman's confidence in strategic bombing had been vindicated by the role of conventional ground and naval forces in Korea. Likewise, the Navy's basic disagreement with Eisenhower's emphasis on massive retaliation was soon supported by events in Southeast Asia.

The Navy remained committed to meeting the communist threat with a balanced force. Eisenhower disagreed. He felt the Soviets would initiate war with an atomic attack and that the only prudent course would be to launch a responding nuclear attack as soon as warning was received [Ref. 27: p. 42].

He also felt the Soviet conventional capability required a nuclear response. Using Western Europe as an example, Eisenhower said,

> . . . in view of the disparity of the strengths of the opposing ground forces, it seemed clear that only by the interposition of our nuclear weapons could we promptly stop a major Communist aggression in that area. . . . My intention

was firm: to launch the Strategic Air Command immediately upon trustworthy evidence of a general attack against the West. [Ref. 39: p. 503]

Eisenhower was committed to meeting Soviet aggression with nuclear weapons.

Among Eisenhower's critics was the Army Chief of Staff, General Taylor, who challenged the President's position on the utility of nuclear weapons as a deterrent to all forms of Soviet aggression. As the Soviet Union also attained a comparable nuclear arsenal with that of the United States, Taylor felt that the threat of nuclear war would diminish and be replaced by small, brush-fire conflicts between the East and West [Ref. 27: p. 42]. In response to these "small wars" he joined the Navy in supporting a conventional buildup of balanced military forces to quickly deal with such conflicts and keep them from escalating to general nuclear war. To this Eisenhower provided an argument:

> To emphasize my convictions, I stressed that the United States would not employ the same policies and resources to fight another war as were used in the Korean conflict. I saw no sense in wasting manpower in costly small wars that could not achieve decisive results under the political and military circumstances then existing. I felt that this kind of military policy would play into the hands of a potential enemy whose superiority in available military manpower was obvious. We should refuse to permit our adversary to enjoy a sanctuary from which he could operate without danger to himself; we would not allow him to blackmail us into placing limitations upon the types of weapons we would employ. Moreover, in the matter of brush-fire wars I pointed out that we would not try to maintain the conventional power to police the whole world, even though we would cooperate with our allies on the spot. The Communists would have to be made to realize that should they be guilty of major aggression, we would strike with means of our own choosing at the head of the Communist power. [Ref. 39: p. 504]

From his response, one can find several significant and telling conclusions that each begs a question. *First*, Eisenhower believed that any results--good or bad--from brush-fire wars could not be "decisive" for the United States. Does that mean they could not be "decisive" for the Soviet Union either? Or that their cumulative effect could not eventually become "decisive" for either the U.S. or the Soviet Union? *Secondly*, if the U.S. refused to be "blackmailed" into limiting its options, does that imply that nuclear weapons would be used in brush-fire wars? And *thirdly*, If the U.S. were to "strike" at the "head of Communist power" should they be guilty of "major aggression," would the U.S. strike if they were only guilty of "minor aggression?" And, for that matter, where is the line drawn between major and minor? Actually, what Eisenhower did say was that the U.S. would not engage itself in brush-fire wars but

would "cooperate" with allies "on the spot." The use of nuclear weapons was an open question. It was soon given the opportunity to be answered.

By 1954 the French had used up all the resources they felt able to dedicate to their struggle to hold onto Indochina. They sought help from the United States. Eisenhower, who was pushing the French to support the European Defense Community Treaty, was inclined to help. The French were against the Treaty which proposed the rearming of Germany because they were hesitant to rearm the country that had caused them so much misery through two world wars. Eisenhower wanted the Treaty and French participation in order to reduce the U.S. presence in Europe by shifting it to the local signatories of the Treaty. To help convince the French to participate, Eisenhower increased the U.S. burden of the French effort in Indochina to $785 million reasoning that the cost would be offset by a savings on U.S. troop deployments in Europe that could be curtailed by the Treaty. Eventually, despite the aid they received and the subsequent actions taken by Eisenhower in their defense, the French rejected the Treaty--a move the President called "a major setback for the United States." [Ref. 44: pp. 118-125]

In March 1954, fifteen thousand men of the French forces defending their interests in the region found themselves surrounded and besieged at a fortress called Dienbienphu in northwestern Indochina (Vietnam), fifty miles from the Chinese border. General Paul Ely, French Chief of Staff in Indochina, informed the U.S. leadership that allied intervention was desperately necessary or all would be lost for the French. [Ref. 45: p. 163] While not wanting to support French colonialism, Eisenhower and his Secretary of State, John Foster Dulles, were convinced that should the French fall, a "domino effect" would obtain in the region resulting in the eventual communist domination of all of southeast Asia. Dulles called for the "internationalization" of the war in order to "cooperate with our allies on the spot." Many civilian and military leaders called for what had not been accomplished in Korea--the destruction of the Chinese Communist Regime, while others violently opposed another involvement that seemed so much like Korea. Richard Nixon, the Vice-President, warned that U.S. troops might have to follow the French collapse. Reaction to his remarks was so negative, that four days later Dulles had to reassure the nation that U.S. involvement was "unlikely." [Ref. 45: p. 164]

The French military command had originally rejected allied assistance in the war unless the Chinese began air attacks upon the fortress. The air attack never

materialized. However, its place was taken by a massive artillery barrage and anti-aircraft capability that proved just as effective as an air attack would have been. [Ref. 46: p. 298] Sixty-two French planes attempting to resupply the fortress were shot down, bringing the forces inside to their knees [Ref. 47: p. 341]. For quite some time, Admiral Radford, the Chairman of the JCS, had been recommending U.S. intervention into the war by using naval aviation to bomb Viet Minh positions around the fortress. While Radford recommended unilateral U.S. air strikes, Eisenhower and Dulles were against any but multilateral action with the British and French. Churchill and Eden, the British Prime Minister and his Foreign Minister, were adamant against any involvement. [Ref. 48: p. 202] They were convinced that any air strikes would be followed in 48 hours by the irresistible demand for ground troops [Ref. 45: p. 165]. They feared that any involvement by other powers would bring a wholesale invasion by the Chinese.

A conference of all parties had been called to meet in Geneva at the end of April. Complicating the entire French involvement was the instability of their current government which threatened to collapse any day. The French wanted immediate unilateral help from the Americans without the complication demanded by Eisenhower to include the support of the British. Eisenhower was determined that the mistakes of Korea would not be repeated. He was not going to involve American troops in another conflict that did not have a guaranteed favorable outcome. He insisted that any action taken be multilateral with the U.S. contribution as small as possible. He had originally agreed with Radford's plan to conduct air strikes but those actions would be combined with other military assistance from British, Australian, New Zealand, and Philippine troops. He intended that the French would continue to carry the primary burden of the fighting despite Allied intervention. Sensitive to the possible accusation of supporting colonialism, Eisenhower stipulated that future independence for Vietnam, Laos and Cambodia would be guaranteed after peace had been restored. [Ref. 44: pp. 122] On 3 April 1954, Admiral Radford and Secretary Dulles met with a bipartisan group of congressional leaders (including Lyndon B. Johnson who would later find himself more intimately involved in southeast Asia) to discuss Operation *Vulture*. The operation would involve ninety-eight B-29 Superfortresses carrying fourteen tons of bombs each from bases in Okinawa and the Philippines. The aircraft carriers *Essex* and *Boxer* were offshore and would provide jet fighter cover against the possibility of Chinese MIG intervention. The President wanted the Congress to pass a

resolution permitting him to use air and naval power in Indochina and so initiate Operation *Vulture*. [Ref. 46: p. 300]

Led by Johnson, the congressional leaders flatly rejected the unilateral intervention of U.S. forces and stipulated that any resolution would require the following:

- United States intervention must be part of a coalition to include the other free nations of Southeast Asia, the Philippines, and the British Commonwealth.
- The French must agree to accelerate their independence program for the Indochina States so that the United States assistance would not appear as supporting colonialism.
- The French must agree to stay in the war. [Ref. 46: p. 301]

The likelihood of winning congressional support rested on British support. Dulles left for Europe to pursue the necessary cooperation. Meanwhile plans for *Vulture* were continued. The French commander was petitioned for air crews that could fly in the B-29's. Aircraft were positioned and with at least one painted with French markings [Ref. 46: p. 304].

In London, Dulles presented the planned operation to Churchill and Eden who had to consult their cabinet. Meanwhile, Dulles went on to Paris to reassure the French that help was in preparation for the fortress. During his meeting there on 14 April, Dulles asked the French Foreign Minister, Georges Bidault, if two atomic bombs would be sufficient to save Dienbienphu [Ref. 46: p. 307]. Admiral Radford joined him in trying to persuade the Allies to support an atomic strike from the carriers in the Gulf of Tonkin--the only thing that seemed capable of snatching victory from the jaws of defeat. [Ref. 48: p. 202]

The whole plan fell apart when on 25 April the British cabinet decided to withhold support from the entire joint operation. They wanted to give the Geneva conference, about to begin, a chance to provide a political settlement to the situation. Meanwhile Dulles had become convinced that the cause was lost. He had sent a message to the President outlining that the loss of Dienbienphu should not cause the collapse of the French. Churchill was dubiously sympathetic, "I have suffered Singapore, Hong-Kong, Tobruk: the French will have Dienbienphu. . ." [Ref. 46: p. 310] The fortress fell on 7 May 1954 after fifty-five days of intense battle with Viet Minh forces.

After the fall of the fortress, the French were forced to partition the country in half--a very costly settlement. Eisenhower and Dulles continued to wrestle with trying to define the extent of U.S. commitment to the French and to Indochina. Dulles formed the Southeast Asia Treaty Organization in November in an attempt to display some strength in Asia after the weak showing over Dienbienphu. Unfortunately, SEATO was nothing more than a ceremonial body that required only consultation between members and no military commitments. [Ref. 47: p. 341] In this instance massive retaliation failed to provide the nation with an appropriate strategy to deal with a problem that everyone agreed demanded resolution. As one author has stated:

> The doctrine--massive retaliation--died symbolically at the news conference in which Dulles said we would not save northern Indochina because it really was not vital after all. Instead, we created the Southeast Asia Treaty Organization to prevent any further Red aggression in Asia. The actual death of massive retaliation was that split second when President Eisenhower overruled his vice president, the chairman of the Joint Chiefs of Staff, his Secretary of State, the Air Force Chief of Staff, and the Chief of Naval Operations in agreeing with General Ridgeway (the Army Chief of Staff) and deciding not to intervene in the Indochinese war. [Ref. 33: p. 50]

All of those, the Navy included, who doubted the efficacy of massive retaliation to solve the dilemma of meeting communist-inspired aggression were vindicated by its inability to prevent the fall of Dienbienphu--its first serious test of effectiveness. It would later fail again in the dispute over the communist's shelling and forced evacuation by the U.S. Navy of the Chinese Nationalist Tachen Islands--massive retaliation's second test.

The challenge presented to Eisenhower over Dienbienphu, clearly demonstrated that the problems of Korea were not unique. The same form of aggression characteristic of the Korean conflict was likely throughout Southeast Asia. The urge to engage itself in limited conflicts to meet brush-fire wars was one that the U.S., in this case, managed to overcame. President Eisenhower's doctrine of massive nuclear retaliation was weakened by nuclear parity. Originally, with a preponderance of nuclear weapons, the threat of U.S. nuclear retaliation seemed a legitimate national strategy. It had been tested by Truman and finally adopted by Eisenhower. However, with the growth of a Soviet nuclear capability and massive retaliation's inappropriate character for limited conflicts, it was discredited. President Eisenhower readily accepted its lack of utility in addressing brush-fire conflicts. However, he was intent for other reasons to keep the U.S. out of such engagements. While some would have

readily committed U.S. forces to limited wars, President Eisenhower managed to exercise restraint. As he explained:

> During the course of this meeting I remarked that if the United States were, unilaterally, to permit its forces to be drawn into conflict in Indochina and in a succession of Asian wars, the end result would be to *drain off our resources* (italics added) and to weaken our overall defensive position. If we, without allies, should ever find ourselves fighting at various places all over the region, and if Red Chinese aggressive participation were clearly identified, then we could scarcely avoid, I said, considering the necessity of striking directly at the head instead of the tail of the snake, Red China itself. [Ref. 46: p. 312]

Eisenhower apparently felt the fall of the French in Indochina was not "decisive" despite the gain it undoubtedly represented for the communist camp. He did not feel that it was worth the risk that involvement might entail--risk for the economy or for American troops. While implying the above, he went on to *reaffirm* the threat of massive retaliation against the Chinese homeland if and when the U.S. decided to act.

Despite the failure of New Look and massive retaliation, the Navy did not take unnecessary advantage of its strategic vindication. It was the second time the Navy had been proven correct. However, two elements served to restrain the Navy from saying "I told you so." First, the Navy had turned from the ineffectual policy of criticizing and trying to change national strategy characterized by the "admiral's revolt" to a new policy of working within national strategy. This was evidenced by CNO Admiral Carney's memorandum, mentioned previously, endorsing the Navy's carrier force as part of the nation's strategic strike capability. By this, the Navy demonstrated its ability to operate within national strategy without losing sight of its own goals and identity. [Ref. 43: p. 268] Secondly, and perhaps a factor that more significantly moderated the Navy's disagreement with massive retaliation, was the development of the Navy's own contribution to that doctrine--the submarine-launched ballistic missile.

C. POLARIS

In some respects the impact of Polaris was anti-climactic. There can be no question that it forever after altered the Navy's role in nuclear warfare. However, its impact upon the Navy would have perhaps been much greater if it had been available for deployment during the midst of the third period of interservice rivalry from 1945 to 1950 when the Navy was fighting for its very existence. Had it been available under the the tenure of Navy Secretary Johnson, the Navy would have spared itself the humiliating defeat it suffered at the hands of the Air Force and Truman's budget constraints.

Regardless, Polaris came to the Navy in a period of relative prosperity in the Navy's recent history. In the aftermath of the Korean War, instead of the historical cut-back accompanying all previous wars, the Navy continued to enjoy relative favor in national defense budgeting. During Eisenhower's administration, the Army more so than the Navy incurred the brunt of budget cuts [Ref. 49: p. 378].

As Arleigh Burke took over the job of CNO in August 1955, the Navy discovered that solid fuel propellant could be used to launch a ballistic missile 1,500 miles. Radical improvements in nuclear warhead technology reduced their weight to manageable proportions. The two discoveries combined gave rise to the possibility of developing a ballistic missile submarine.

The Defense Department's effort at developing ballistic missiles was slow to develop and undoubtedly delayed by the concentrated attention given to the manned bomber and strategic bombing. The Navy had previously developed the Regulus surface-to-surface submarine-launched missile which entered service in 1955 as the Navy's first nuclear strategic missile. The Regulus was stored in pairs in a round hanger mounted on the deck of a submarine. It was launched by two solid rocket boosters and then powered by a turbo-jet engine for ranges up to 500 miles. With its nuclear warhead, it was designed for attack against strategic land targets. Regulus I was followed by developmental work on Regulus II which was designed to be more accurate and capable against strategic point targets such as submarine pens, airfields, and nuclear weapons stores. [Ref. 50: pp. 2190-2191]

Although over 500 Regulus I missiles were built, both Regulus I and II were abandoned in favor of the advantages of speed and invulnerability of ballistic missiles [Ref. 51: p. 64]. The explosion of the Soviet H-bomb and knowledge of its investigations into ballistic missiles added impetus to the Navy's efforts as well as the the national effort to develop a ballistic missile.

President Eisenhower directed the National Security Council to form a committee to analyze the East-West nuclear balance. The Killian Committee concluded its study and gave its result to the President in the winter of 1955. The Committee recommended the simultaneous development of an ICBM by the Air Force (the Atlas), and a 1,500-mile intermediate range missile to be fired from either land or sea to be developed jointly by the Army and Navy (the Jupiter). [Refs. 52,53: pp. 17, 76] President Eisenhower subsequently directed that the recommendations of the Committee be implemented.

Admiral Hyman Rickover had already spearheaded the development of a nuclear-powered submarine, the *Nautilus*, that had been launched in January 1955. The assignment to develop a submarine-launched ballistic missile was eventually given to Rear Admiral William Raborn, Jr., a naval aviator and expert in missile technology. Raborn was assigned as director of the Navy's Special Projects Office by Admiral Burke and, initially, told to work with the Army in building a liquid fueled missile to be fired from a surface ship.

Unfortunately, the technology to put a ballistic missile in a submarine was simply not available. Consequently, the Navy was willing although less than enthusiastic to put them on surface ships. The current missiles under development were mammoth objects up to five stories tall. Putting one on a rolling pitching deck and expecting to launch it safely seemed an insurmountable task.

The advantages of placing the missiles on a submarine were clearly spelled out by the report of the Security Resources Panel chaired by H. Rowan Gaither. The Gaither Report entitled "Deterrence and Survival in the Nuclear Age" promoted the deployment of Polaris because of its "advantages of mobility and greatly reduced vulnerability." [Ref. 27: p. 47] To the Navy a silent and highly mobile nuclear submarine loaded with atomic missiles ready to fire at an attacker was the "ultimate national deterrent" to nuclear war. [Ref. 27: p. 52] However, putting the missiles aboard submarines was not deemed possible. At the time, all ballistic missile propulsion systems were liquid fueled which required the extremely hazardous task of loading volatile chemicals, liquid oxygen and RP-1, a kerosene derivative, into the missile immediately prior to launch. Storing and transferring such explosive mixtures on a submarine was too dangerous to consider seriously.

However, as the problems of using the same system aboard a surface ship seemed nearly equally difficult, Raborn was finally given permission to explore a solid fuel propulsion system. Although all research to that date on solid fuel had proved in vain, the advantages were too significant to pass over. After a presentation given to the Secretary of Defense on the possibilities of solid fueled missiles won his approval, Raborn aborted the joint Army-Navy missile, the Jupiter, and began work on the Navy's individual effort which he named Polaris.

Praise for Raborn's effort in the development of Polaris often mentions the management techniques that he used to track progress on the overall project. Using computers, Raborn instituted a system research and development planning, scheduling

and control called Performance Evaluation Review Technique (PERT) that provided him a constant picture of the progress of every aspect of the project. With PERT, Raborn was able to spot delays, bottlenecks, and engineering problems that held up progress on the system. [Ref. 52: p. 222]

Regardless of the management system, the hard work, concentrated effort, and *carte blanche* given Raborn was bound to result in technological break-throughs. Those in such areas as solid fuel propulsion, inertial navigation, miniaturization and nuclear warhead design were achieved and, indeed, necessary to make the total Polaris system work. Solid fuel, after several near disasters, was perfected. The intricate gyros necessary for fine navigational accuracy were developed and refined. A major breakthrough in nuclear warhead design allowed the eventual reduction in size of the typical 10,000 pound atomic bomb to a more powerful warhead weighing just 600 pounds [Ref. 22: p. 314].

Polaris was intended to enter service in 1963. However, the timetable was disrupted by an event figuratively and literally foreign to the project--the launch of Sputnik by the Soviet Union on 4 October 1957. Although the Polaris program seemed pressed to its limits, Congress soon began pressuring for the project to be speeded up. Admiral Burke, taking the traditional Navy line, cautioned against over-reaction and single-minded obsession with ballistic missiles. Conventional naval forces had been much more useful, even during the cold war, than had been high technology and nuclear weapons [Ref. 22: p. 311]. Burke was afraid that a concentration on Polaris would delay the completion of other vital construction--namely, the USS *Enterprise*, the Navy's first nuclear powered aircraft carrier which had just been funded.

Nevertheless, the Navy was pushed by Congress to accelerate Polaris. Raborn shaved the range from 1,500 miles to 1,200 miles and claimed he could produce the submarine and missile as a system by 1960--three years earlier than originally planned. He was given the go-ahead by Secretary of Defense, Neil H. McElroy. [Ref. 52: p. 149]

The Air Force recognized the Polaris as a direct threat to its monopoly on strategic nuclear warfare. It was currently developing its own liquid fueled ballistic missile--the Minuteman. Consequently, the Air force engineered what defense it could by disparaging the smaller warhead planned for the Polaris, and its price tag--$10 million for each Polaris missile on station versus $2 million for each Minuteman in a silo. [Ref. 52: p. 216]

Failing there, the Air Force tried to obtain control of Polaris by suggesting that it be integrated into the command and control structure of the Strategic Air Command. The Navy barely had to respond. Congressman Daniel Flood of Pennsylvania of the omnipotent House Military Appropriations Subcommittee said to Arleigh Burke:

> It is obviously a planned and determined effort to incorporate this Polaris system of the Navy into some strategic bombardment concept of The Air Force. No question about that, in my opinion. That should not be done. I personally hope that if and when this reaches the Joint Chiefs' level for final action, before it goes to the Secretary level, if your name is Burke, I think you know how to handle the Navy's case. . . I expect you would and I am sure you will. Do not let these jokers push you around. That is nonsense. [Ref. 52: p. 214]

Much to the chagrin of the Air Force, the Polaris system was too important to U.S. deterrence strategy to consider cutting. The principle debate in Congress was not over whether Polaris was a good system, but how fast, how many and how soon they could be built.

The second Soviet space launch, Sputnik II, confirmed Russian prowess and sent shivers down the spines of U.S. political leaders. The fear was not that the Russians were technological astute (which they undoubtedly were) but that they had a system that threatened to bring international war where it had not been before--the heartland of America. One of the primary congressional requirements for warmaking--that it remain far from American shores--had been violated. War with the Soviet Union was no longer a viable alternative in congressional thinking. It had to be deterred rather than fought. Polaris seemed to be the ideal instrument of deterrence. It was invulnerable, it was powerful, and it was a technological marvel--a combination that established for the fleet ballistic missile force (FBM) a permanent and undisputable position in national defense. The Air Force was totally impotent in its efforts to impede Polaris's deployment.

After overcoming technological obstacles that were reminiscent of the Manhattan effort, Raborn deployed his first FBM, the *George Washington* in the fall of 1960, followed shortly by the *Patrick Henry*. Although Arleigh Burke had cautioned against placing unrealistic expectations on Polaris, the U.S. leadership continued to look for a quick fix to national security problems. As the Soviet nuclear threat became more intense, Polaris seemed a method of reestablishing U.S. superiority in nuclear warfare. While the Navy fully appreciated the capability that Polaris represented, it was in certain respects a dramatic departure from traditional naval thinking on warfare.

Polaris served no purpose in conventional, limited or general nuclear warfighting.[19] However, Polaris was a deterrent force the nation wanted and it operated in the naval environment. Therefore, even though Polaris violated the general naval attitude toward warfighting, the Navy cautiously embraced it. Unhappy to be paying for the construction of what it considered a "national rather than Navy program," the Navy resented having to cut surface shipbuilding projects to fund Polaris [Ref. 54: p. 152].

The Air Force was partially justified in its legitimate concern over the implications of the additional nuclear firepower presented by Polaris. The history of strategic targeting by U.S. nuclear forces was replete with instances of duplication in the assignment of targets to separate nuclear forces. The Air Forces wanted to prevent the waste of assigning the same target to two different weapon systems, i.e. assigning both an ICBM and a Polaris to target a single enemy industrial complex.

In the 1950's each individual specified or unified commander who was assigned nuclear-capable forces was free to develop his own targeting annex or list of targets. This inevitably led to duplication by adjoining commanders who both controlled nuclear-capable forces within range of the same target. [Ref. 55: p. 8]

The modest size of the Navy's nuclear capability in comparison to that of the Air Force and the Navy's emphasis on conventional warfare in the 1950's created only moderate concern over the lack of a unified doctrine for nuclear targeting. In fact, the Navy was generaly free to deploy its nuclear forces to suit itself with little interference from outside the Navy. The carriers had received their targeting assignments from the Air Force but there was little further coordination.

However, the advent of Polaris and its significant contribution to the overall nuclear capability of the nation's strategic arsenal was greeted much more seriously by the Air Force. Led by the SAC commander, General Thomas S. Power, in 1958, the Air Force made its abortive attempt to incorporate Polaris into a unified strategic command under a SAC commander.

Although this effort failed, as described above, the Secretary of Defense, Thomas Gates, also recognized the legitimacy of Air Force concerns and in August 1960 directed the formation of the Joint Strategic Targeting Planning Staff (JSTPS). The JSTPS has continued until today at its location at SAC headquarters at Omaha,

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[19]Polaris was not accurate enough to destroy counter-force targets like ICBM silos nor was it "prompt" enough to be tactically useful. It was a retaliatory weapon that was most effective against area targets, e.g., population centers and industrial complexes. Therefore its use in warfighting was negligible.

Nebraska. The JSTPS, headed by a SAC commander with a Navy flag officer as deputy, was tasked with developing and maintaining the National Strategic Targeting List (NSTL) of all strategic targets, and with developing and maintaining the Single Integrated Operational Plan (SIOP) which coordinates the assignment of targets from the NSTL to all strategic nuclear weapon systems--including Polaris. [Ref. 55: p. 9] The Navy, therefore, retained full control of Polaris yet joined in a legitimate effort to coordinate the capability of Polaris with other national strategic nuclear assets.

VIII. SUMMARY AND CONCLUSION

A. THE CHARACTER AND EVOLUTION OF NAVAL STRATEGIC THINKING

The geographical characteristics of the United States allowed the country the privilege of pursuing an isolationist foreign policy throughout most of its history. The vast oceans that separated America from European and Asian hostilities were a fundamental ingredient in the formula that determined the growth of American foreign policy. Even when the United States did venture forth to exert its increasing power in the world, it was able to do so with a selectivity that was denied traditional nation-states. For example, the United States was generally able to ignore political developments in Europe during the 1800's and concentrate on interests in the Pacific Ocean. Even when forced to confront a European power--Spain--the U.S. did so in the Pacific and Caribbean not in Europe. Neither England, France, Japan, Germany or Russia could feel safe from the threat posed by the close proximity of hostile forces. Throughout the entire course of the early development of the United States as a world power, it alone could claim that privilege.

The consequences for the Navy of such a geographical position were two-fold. On the one hand, the oceans that surrounded the United States called for control by a strong navy, and on the other, the protection afforded by the isolation seemed to make the expense of a navy extravagant and unnecessary. As a result, in times of war, the Navy was belatedly expanded and glorified. In times of peace it was retired and denigrated.

Repeatedly, students of U.S. naval history have faulted the Navy for not sounding its own trumpet and thereby contributing to its own legacy of "feast or famine." The Army, stationed at posts around the country and in Washington, constantly reinforced its position as vital to the defense of the nation in the minds of the public. From the blatant orchestrations of Billy Mitchell in the 1920's to the four-part series of articles written for *The Reader's Digest* in December1947-April 1948, the Air Force lost not a single opportunity to impress the public with the essential character of its role in national defense. However, the Navy, at sea on ships, remained the "silent service," out of sight and out of mind, reluctant to involve itself in political lobbying despite the inevitable reductions that awaited it after every cycle of conflict and settlement.

Brief interludes of genius did interrupt the historical course of the U.S. Navy's development. *First*, Captain Alfred T. Mahan defined, not only for the U.S. Navy but for the rest of world, the direction of 19th century naval warfare. *Secondly*, James Forrestal redirected the Navy to address its newly developed strategic as well as tactical capability. Generally, however, the U.S. Navy was content to follow a slow, steady course in the execution of its mission as defined by the foreign policy and national strategy determined by the U.S. political leadership. The Navy had historically been very faithful in pursuing the foreign policy direction provided by the executive branch even during times when that policy was so slow in formulation that the Navy begged for guidance [Ref. 7: p. 147].

In its development of a strategy to perform its mission, the Navy originally followed the European pattern of *guerre de course*, or coastal defense and commercial raiding. The doctrines of Mahan altered that strategy to conform with the more decisive role of engaging the enemy fleet on the high seas or blockading his ports. The development of the battleship as the preeminent naval weapon climaxed the strategy of "sea control." The rise of the aircraft carrier and naval aviation brought with it the ability to conduct "power projection" or warfare beyond the range of naval guns as a complement to "sea control." With naval aviation, the Navy created the foundation of a strategic role in warfare.

The struggles with the Air Force actually stimulated the rise of naval aviation to its dominant position in the Navy. By having to justify its possession of an air force, the Navy was forced to explore aviation's actual worth in naval warfare. Despite this, the Navy was still slow to recognize naval aviation for what it was. Even after the devastating air attack by naval aircraft upon Pearl Harbor, there was a call to rebuild a battleship fleet [Ref. 7: pp. 82-83]. The ironically fortuitous sinking of the battleships forced the Navy to meet the enemy with the correct weapon--the aircraft--and thereby established naval aviation as the preeminent weapon of naval warfare.

The relatively inconsequential strategy of commerce and coastal raiding practiced by the American fleet prior to Mahan was rejected in favor of his more efficient doctrine of sea control. Control of the seas allowed the unhindered transportation of troops as well as 19th century colonial expansionism. Forrestal completed the evolution of naval strategy by expanding the tactical missions of naval forces to include strategic functions--interdicting enemy forces and warmaking capabilities not directly involved in tactical combat.

The exploitation of naval aviation adopted to a strategic role directly challenged the role that the Air Force had reserved for itself thereby amplifying the conflict between the services. Nevertheless, the consequences of the controversy between the two would have been even worse for the Navy had it not had a strategic capability. Because of the budget limitations that fueled their conflict, had the Navy not been able to justify itself with a strategic contribution of its own, the Navy might very likely have been reduced to a patrol boat fleet as was feared by Arleigh Burke. Such a reduction would have provided additional funds for the Air Force to increase its strategic bombing capability.

The introduction of the atomic bomb into U.S. naval strategy presented the Navy with the opportunity to claim the complete usurpation of the Air Force's *raison d'etre*. In fact, one school of thought held the more radical view that the nuclear warhead mated to a missile had invalidated both the Air Force and naval aviation. Their reasoning was that the manned airplane was merely an extension of artillery. The airplane was able to extend the range of army and navy bombardment. However, once the missile was introduced, the necessity for manned aircraft for bombing was lost. The missile, once sufficiently refined, could deliver ordinance on the target without the failures of human intervention or fear for the pilot's life. Consequently, there was no longer any need for the Air Force or naval aviation whose jobs could more readily be performed by missiles with nuclear or conventional warheads. The separately organized Air Force, under this thesis, would be dissolved and its responsibilities returned to the land and naval forces from which they were taken. [Ref. 7: p. 59]

Despite the development of a strategic bomber, the Navy was too committed to a balanced force to advocate assuming strategic bombing as its primary mission. The traditional naval approach amplified by the diversity of naval operations--above, on and below the sea--relegated strategic bombing to a position parallel to other naval tactics. It was undoubtedly important, and it was a tactic the Navy wanted to exploit. However, it did not invalidate any other proven tactic or strategy of warfare.

In pursuit of adopting strategic bombing into naval strategy, the Navy supported the Doolittle Raid over Japan. Naval bombers were active throughout the war,

attacking the enemy's warmaking potential far behind the lines of combat. Adopting *nuclear* strategic bombing was accomplished by the development of the AJ-1 Savage and its more capable follow-on, the A-3D Skywarrior.[20]

However, the Navy was perfectly willing to permit the Air Force the dominant role in strategic bombing. Two factors were important. *First*, while strategic bombing was a legitimate role, it was of dubious worth in actually meeting the threat. The tactical use of nuclear weapons seemed much more efficient at addressing those forces that threatened naval operations. Such targets included submarine bases, fleet concentrations and enemy air fields, all of which were tactical targets. Subsequently, the Navy concentrated on the tactical employment of nuclear weapons. *Secondly*, the use of nuclear strategic bombing, while having little legitimate warfighting value, served better as a counter-value weapon threatening enemy civilian population centers. As was proven by the Strategic Bombing Survey, such a role had minimal impact on the actual warfighting capability of an enemy. Therefore, strategic nuclear bombing's most efficient role was as a deterrent to aggression and not as a warfighting instrument. The Navy was willing to allow the Air Force to dominate the American deterrent responsibility. It was such a single-minded responsibility that the Navy rejected it in favor of a more well-rounded capability.

The Navy argued that with the stalemate brought on by the mutual acquisition of nuclear weapons by both the U.S. and the U.S.S.R., further conflicts between the two would involve small-scale limited confrontations either directly or through proxies. The Korean War proved to be a prime example of the Navy's position. After the cessation of hostilities, the Navy continued to press its position--that the nation's defense should rest upon a well-balanced defense capable of meeting the entire spectrum of conflict.

The evolution of the Navy's warfighting strategy, both tactical and strategic, nuclear and conventional, was colored by the recurring debate with the Air Service/Air Corp/Air Force. Throughout the history of the debate over roles and mission, the Air Force was clearly the antagonist. Initially, the Air Force attacked the Navy in order to enhance its demand for independence. Then, the Air Force attacked the Navy over the fabricated threat to strategic bombing. Underlying the entire conflict was the struggle

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[20]In March 1949 Douglas Aircraft Company was awarded a contract to build a two-engine jet aircraft to function as a carrier-borne strategic nuclear bomber. The Skywarrior was delivered to the Fleet in December 1954. It was (and still is) the heaviest operational carrier-borne aircraft although it has long since lost its role as a nuclear bomber.

for funding and the constraints of the defense budget. Despite the futile attempts of the leadership to quell the conflict through legislation, conferences and boards, the only effective relief came from the loosening of the budgetary purse strings brought on by *first*, World War II, and *secondly*, the Korean War. The acrimonious debate that took place in the halls of Congress after World War II was stopped swiftly and surely by the unprecedented growth in defense spending between 1950 and 1952--from $13.1 billion to $44.0 billion in two years! Of course, there continued occasional eruptions in interservice rivalry throughout the 1950's. However, it never threatened the proportions that were reached during the parsimonious administration of Harry Truman.

Throughout the administration of Dwight D. Eisenhower, the Navy was resolutely pursuing its limited war strategy regardless of the President's avowed reliance upon retaliation with nuclear weapons. Convinced that the pattern set by Korea was bound to continue regardless of the threat of massive retaliation, the Navy pressed for the construction of aircraft carriers, cruisers, and destroyers to meet the needs of limited warfare.

Just when the Navy had given up on its attempt to establish a legitimate contribution to strategic warfighting and defense, the Polaris submarine became a possibility. The Polaris missile coupled to a nuclear submarine, gave the Navy an undisputed role in the nation's deterrent posture. Ironically, the Polaris submarine did not fit into the mainstream of Naval strategic thinking. It necessitated the endorsement of the utility of strategic nuclear bombing--an idea the Navy had previously abandoned. However, the Navy had accepted the essential nature of the "balance of terror" that existed between the U.S. and the Soviet Union. The Polaris submarine contributed to that balance which made nuclear war an illogical expression of national policy. With that definition, the Navy accepted Polaris.[21] Consequently, the Navy did not endorse the utility of strategic nuclear bombing as a warfighting strategy, but did accept it as a means to deter to general war. However, while deterring general war, in the Navy's mind, the nuclear stalemate, complemented by

[21]However, despite the integration of Polaris into the Navy, even today there exists a wide gap between the traditional forces of naval warfare and the ballistic missile submarine force. Both forces operate independently, rarely meet or discuss the operations of the other, and act as if they are practically different services.

Polaris, failed to stop Soviet aggression manifested through limited conflicts and for which, the Navy continued to need aircraft carriers, cruisers and destroyers.

The Navy entered the 1960's with a fairly coherent strategic nuclear policy. It was particularly suited for the new national strategic doctrine of John Kennedy--Flexible Response. The Navy had both a potent conventional as well as nuclear capability and a tactical as well as strategic role. It was prepared to meet a conventional limited conflict with aircraft carriers and naval aviation as well as escalate to a limited nuclear engagement with tactical nuclear bombs. [Ref. 40: p. 79] The undisputable advantages of Polaris as a strategic nuclear weapon system protected the Navy from any legitimate attack by the Air Force on the Navy's contribution to national defense. After a significant struggle, the Navy successfully adopted nuclear weapons into its naval forces in such a manner as to preserve for itself an undisputable role in the nation's defense.

After examining the depth and dimension of interservice rivalry in the aftermath of World War II, one might be tempted to make the observation that the guiding principle behind the development of naval strategy during that period was the competition with the other services for funds. While it undoubtedly did have an impact, it would be a mistake to make such a generalization. From its inception the Navy has waged a constant battle against the popular notion that a peacetime navy serves no purpose. Throughout its existence the Navy has struggled with the Army over limited defense dollars. Naturally, when the Air Force also joined in the competition, the struggled intensified. However, the most significant developments in naval warfare have occurred outside the context of interservice rivalry.

Captain Mahan formulated his "sea control" doctrine without regard for interservice rivalry. It was formulated to meet the threat posed by the inevitable conflicts that he felt would result from the competition between capitalist countries over world markets. [Ref. 7: pp. 107-108]

The rise of the battleship as an instrument of war occurred as a manifestation of Mahan's theory and response to *international* events and competition. The adoption of naval aviation as the preeminent striking force of the Navy occurred as a result of the Japanese attack upon Pearl Harbor which sank the battleships--not to spite the Air Corp. The strategic reorientation of U.S. naval forces ordered by James Forrestal developed from his perception of Soviet worldwide aggression. Only secondarily were these developments converted to become the useful bargaining tools of interservice rivalry.

Just as with these examples, the adoption of a nuclear role in the Navy, first as a deployed atomic bomber, and then as a Polaris submarine, was a response to a legitimate threat to the national interest and naval operations. The primary role adopted for nuclear bombers was that of attacking submarine facilities, operating bases and other tactical targets. Secondarily the bombers were assigned strategic roles, under the assumption that overseas bases for Air Force strategic bombers would very likely be unavailable. Likewise, the Polaris was developed as a deterrent to the employment of Soviet intercontinental ballistic missiles that threatened the land-based deterrent of ICBM's and manned bombers--not to usurp the role of the Air Force.

Undoubtedly, interservice rivalry played a role. However, that role was a secondary one that could only respond with what the Navy had developed to meet the foreign threat. To overemphasize that role would be in error.

A more legitimate criticism of the development of naval strategic policy after World War II (and one that could apply equally well to the development of the national strategy during the same time period) was the assumptions upon which that strategic policy was founded. While naval strategy was developed as a response to an external threat, there was little discussion or understanding of what the threat actually was, what it was capable of doing, or what its intentions were. In debating the development of a nuclear strategic policy, both the Navy and the Air Force based their respective arguments upon the nature of the bomb and its purported destructive capability. Neither the attitude of the Soviet Union toward the bomb nor its strategy for employment of the bomb appears have been considered by the Air Force or Navy in deciding their own strategy.

Historically, in 19th Century balance of power politics, such a disregard for the enemy or his strategy might have been forgivable. However, the unique character of Soviet Communism has shown itself to be dramatically different from that of the status quo powers of the 19th Century. The ideological underpinnings of communism supporting Soviet imperialism have no precedent in history. To develop a nuclear strategy in the 20th Century to address the threat of world communism demands an exhaustive consideration for the motivations and strategy of that movement. Only then could a strategy be developed within the constraints of the American political situation that genuinely addressed the threat. For example, first Truman and then Eisenhower founded the national strategy upon strategic nuclear bombing. This was not done with any consideration for the motivations, objectives or strategy of the

Soviet Union--but, was based upon the domestic economic constraints of the U.S. political system. Rather than consider whether strategic nuclear bombing would really keep the Soviet Union from committing acts of aggression, both administrations assumed that it would because it would deter U.S. action had the circumstances been reversed. And, it seemed to be the only strategy that could be afforded.

The strategy of massive retaliation was adopted for three basic reasons. *First*, it envisioned a war using few soldiers and in a place far from American shores. *Second*, it was a technological solution to the messy business of war and technology was an area in which the U.S. excelled. And, *third*, it was appeared economical. Supporting 500 strategic bombers was significantly cheaper that supporting thousands of troops scattered around the world attempting to stamp out every eruption of Soviet incrementalism. None of the above considers the impact that such a strategy of massive retaliation would have upon the Soviet Union or whether it would actually serve to deter them. There does not seem to have been any significant thought to what actually deterred Soviet aggression. While the threat of nuclear annihilation would certainly deter the United States from aggressive action, could the same be said for the Soviet Union? Such an assumption was an inadequate basis upon which to found a national strategy--particularly, considering the ideological imperative of the Soviet Union to establish world hegemony.

Even the experience in Korea seems not to have measurably increased the effort to address Soviet strategy. Upon taking office, President Eisenhower immediately established the domestic economy as the determining factor in U.S. strategy--not Soviet strategy. However, there are notable examples of particular insight into Soviet grand strategy by some in leadership positions. They were not, unfortunately, accorded the full attention they deserved. Frequently cited examples include George Kennan's "Long Telegram," Paul Nitze's seminal effort--NSC-68, and James Forrestal's concerns over Soviet expansionism. Despite the attention these examples and others received by high level policy makers, their substance did not find itself reflected sufficiently clearly in actual policy and budgeting. Domestic economics and interservice rivalry easily surpassed their influence as the determining factors of national strategy.

Similarly, the Navy had to resist the inclination to become engrossed in domestic political squabbling at the expense of developing a coherent strategic policy to deal with the threat. While there was a general recognition of Soviet aggressive tendencies by the U.S. naval leadership, initial efforts at postwar planning underestimated the

potential naval threat that would later develop. Some, particularly those outside the Navy, dismissed the idea that the Soviet Union would ever be anything more than a land power. The Air Force used that sentiment to support a call for a reduction in U.S. naval forces and a transfer of budgeted dollars to its cause of aerial warfare.

The sources of disregard for Soviet strategy and potential naval capability are many and varied with the greatest contribution coming from persistent tendencies toward isolationism. Despite the lessons of World War I, World War II and Korea, the U.S. leadership continued to allow itself the privilege of ignoring the outside world to pursue policies catering solely to domestic interests and constraints. In all fairness, however, President Eisenhower was right in his fear that little would be gained in the cold war with communism if the U.S. were to collapse economically. Nevertheless, those policies which were implemented could have shown more consideration for Soviet strategy.

In the Navy's postwar planning, the temptation to revert to isolationism was prevented by Secretary of the Navy James Forrestal. Nevertheless, the development of its strategic and tactical nuclear policy did show some disregard for Soviet strategy. The Navy believed in a balance force that included the use of nuclear weapons. Why? It was not because a balanced force was determined necessary to stop Soviet forces. It was because the Navy had always favored balanced forces. The closest the Navy ever came to saying otherwise was in remarks made by Admiral Nimitz in a report he submitted upon his retirement from the office of Chief of Naval Operations. In his report Admiral Nimitz remarked on the cause of the Japanese defeat in World War II and credited air power, both Army and Navy, with "engendering in the enemy that hopelessness which precedes submission." [Ref. 56: p. 534] Beyond this remark, the Navy as a whole firmly believed that balanced forces had defeated the Japanese in the Pacific. Balanced forces were deemed equally capable of defeating communism in the Pacific. Unfortunately, the form and substance of Japanese aggression bore no resemblance to the form and substance of communist aggression. While the Navy admitted the presence of the threat--Soviet-inspired communist aggression--it failed to account for the unique nature, motivations and strategy of the threat. Therein, the Navy shared somewhat in the overall misdirection and disorientation of U.S. strategic nuclear policy.

B. A NEW TREND AND THE FUTURE

Even while accepting Forrestal's thinking on its potential contribution to strategic warfare, the Navy initiated a twist to its strategy on the employment of nuclear weapons. Initially this was manifested by the promotion of tactical nuclear combat [Ref. 33: p. 94]. In contrast to the apparent futility of strategic nuclear bombing, the Navy still credited the limited use of nuclear weapons in a tactical situation as a legitimate strategy. This idea persisted throughout the 1950's and seemed to be a well-balanced compromise between the destructiveness of the atomic bomb and traditional naval strategy. The Navy felt that nuclear weapons could provide a valuable contribution in the tactical warfare environment. All aircraft carriers and bomber aircraft were subsequently configured to have a nuclear capability. Increasingly, however, the Navy was determining for itself that essential nuclear parity between the the two superpowers was changing the equation that supported the use of nuclear weapons.

The growth of a nuclear retaliatory capability by both the U.S. and the Soviet Union and the increasing awareness of the consequences of nuclear war led the Navy more and more to question *any* use of nuclear weapons in combat. If the use of nuclear weapons automatically brought about an escalation of the conflict to general nuclear war then the use of nuclear weapons became more and more a dubious strategy for victory. Douglas MacArthur expressed the growing sentiment both within and outside the Navy that because of the growing stalemate nuclear war was unwinable, by saying:

> War has become a Frankenstein to destroy both sides. . . . If you lose, you are annihilated. If you win, you stand only to lose. No longer does it possess the chance of a winner of a duel--it contains rather the germs of double suicide. [Ref. 33: pp. 107-108]

MacArthur was seconded by General Taylor's remarks before congressional airpower hearings in 1956 where he said the United States needed enough atomic airpower deterrence to prevent a total atomic war--but not enough to fight and win that war [Ref. 33: p. 156]. The Chief of Naval Operations, Arleigh Burke, added the Navy's vote to the non-utility of nuclear weapons on 11 December 1957 by saying:

> "Limited" action can destroy us just as surely as nuclear war, unless appropriate force can be administered precisely and rapidly to stop or to confine local disturbances. And in supplying this "limited" pressure we must be careful

not to apply too much pressure, for this may cause a limited action to expand into one of major proportions. [Ref. 33: p. 170]

Here Burke refers to the dubious capability of keeping a limited nuclear engagement from becoming a general nuclear war and consequently bringing about the destruction of both sides.

This growing attitude coupled with the already accepted belief that general nuclear war was less likely than brush-fire engagements led the Navy to concentrate on conventional weaponry. A clear distinction was felt to exist between the use of conventional and nuclear weapons--a distinction that could obtain far longer in a crisis than the tenuous distinction between limited and general nuclear war.

Finally, in January 1958 the Navy issued a summary of Naval Warfare Group Study Number 5, "National Policy Implications of Atomic Parity" which formally presented a new trend in the Navy's strategic thinking on the use of nuclear weapons that was more in line with the popular attitude concerning nuclear warfare. The document explored the consequences of atomic parity between the U.S. and the Soviet Union. The loss of the U.S. monopoly on nuclear weapons coupled with the Soviet advances in nuclear weapons and delivery vehicles (the ballistic missile) was determined to have altered traditional thinking on victory in warfare. Winning war was no longer seen as significant as preventing war or stopping it once it had begun. Since miscalculation and misunderstanding could possibly cause war despite the destructiveness of atomic weapons, the prevention and deterrence of war became paramount--much more so than achieving a dubious victory should war develop. For that reason, U.S. nuclear forces should be oriented toward preventing nuclear war rather than winning nuclear war. Consequently, forces that would be more effective in nuclear combat should be replaced by weapons that served retaliatory functions regardless of their efficacy in combat. [Ref. 33: pp. 171-172]

The logical outgrowth of this study supported the development and deployment of the quintessential retaliatory force--the Polaris submarine. With its stealth and invulnerability, the ballistic missile submarine represented the ultimate in retaliatory force. Parenthetically, in contrast to a build-up of land-based warfighting forces that would stimulate a spiraling arms race, a sea-based deterrent that served only as a retaliatory force was believed to reduce arms competition.

The Navy articulated this logic in a paper, *National Policy Implications of Atomic Power*, issued by the Naval Warfare Analysis Group as Navwag #5. [Ref. 37: p. 234]. In the paper the Group concluded that promoting the Air Force idea of hardening missile silos and surrounding them with anti-missile batteries was a faulty concept that would commit the U.S. "to an eternal, strength-sapping race in which the Soviets had a head start." Naturally, they concluded that a deployed force of Polaris submarines did not suffer from the same weaknesses. A mobile and invulnerable submarine deployed in modest but sufficient numbers (finite deterrence) would deter war yet not promote an arms race because it could not possibly be destroyed regardless of quantitative improvements in enemy forces.

The Navy found itself divided in half--one half consisting of a ballistic missile submarine force designed to barrage nuclear warheads upon the Soviet Union, and one half made up of regular naval forces eschewing the use of nuclear weapons. Consequently, the Navy embraced the concept of "finite deterrence" as explained by the Chairman of the Joint Chiefs of Staff, Admiral Radford during the airpower hearings of 1956:

> This visible deterrent may be obtained with very small forces. . . . I think that there will be a change [in the years 1957-1960]. We are moving with our atomic weapons capability toward more powerful deterrents with smaller forces. In other words, a very small force can have a very effective deterrent power, and I think we have to explain that to our allies. [Ref. 33: p. 129]

While the Air Force was demanding the buildup of a B-52 bomber force in their incessant pursuit of strategic bombing, the Navy was admitting the necessity of a specific and finite strategic retaliatory capability. Once that capability had been achieved, the Navy recommended emphasis upon a strong conventional capability to address the more likely conflict--the brush-fire war.

Part and parcel with the strategy of finite deterrence embraced by the Navy was its corollary--that defense against nuclear attack was less efficient at deterring war than maintaining a well-hidden, effective and sure retaliatory capability. In a no-win game, there is little incentive to play. If the Navy were to maintain a guaranteed nuclear retaliatory capability, the initiation of general nuclear war by the Soviet Union would be a remote possibility. Defensive measures by themselves, not directly threatening the destruction of the enemy, by definition do nothing to stop him from the attempt to attack and overcome them. However, retaliatory forces, which threaten his existence should he fail, serve to deter him from the very attempt. [Ref. 33: p. 132]

While the proponents of airpower continued their tirade through the halls of Congress in the mid and late 1950's, massive retaliation and strategic bombing was slowly giving way to the strategy of "Flexible Response." Eisenhower had already abandoned massive retaliation as a consequence of Dienbienphu [Ref. 33: p. 51]. The Navy was joined in its refutation of nuclear warfighting by the Army who actually bore the brunt of the Air Force's machinations in the 50's through manning reductions and budget cuts. Nevertheless, the deaths of massive retaliation and nuclear warfighting were slow. The generation of the "bomber gap" and "missile gap" were latent manifestations of the air atomic blitz philosophy that lingered on throughout the period. Eventually, the nation's strategy shifted toward responding to Soviet aggression with commensurate force--the strategy of "Flexible Response."[22]

Likewise, the Navy entered a period of virtual abandonment of a nuclear warfighting strategy. The dubious capability of preventing the escalation of a limited nuclear exchange into a general nuclear war seemed to many prominent naval officers as proof of the necessity not to initiate the use of nuclear weapons under any circumstances.

However, as the strength of Soviet military forces has increased, the tactical necessity of a U.S. reliance upon nuclear weapons in naval warfare has moderately gained new life. The seemingly impossible task of defending naval forces or accomplishing naval missions with conventional weapons alone against the increasing strength of the Soviet military has forced the new application of nuclear weapons to naval combat. Consequently, the Navy has continued to enhance both its nuclear deterrent capability--the FBM with Poseidon and then Trident submarines, as well as its tactical nuclear force--now complemented by nuclear-armed Tomahawk missiles. Even the battleship has been resurrected to support a tactical nuclear conflict.

The Navy weathered the innumerable obstacles throughout its recent history with some precarious moments. However, actual world events--the Korean War, Dienbienphu, and later Viet Nam--continually vindicated the Navy's position on warfare as well as demonstrated the value of its necessary contribution to national defense.

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[22]The consequence of the shift in national strategy was, of course, the Viet Nam War. One has to question the difference a continued reliance upon massive retaliation would have had on U.S. involvement there.

In conclusion, the Navy, despite the tortuous evolutions of its struggle for viability from its inception to 1960, adhered to the strategy of a well-balanced fleet consisting of all means of conducting naval warfare. The Navy incorporated nuclear weapons into its strategy in a fashion to complement the entire thrust of its combined forces. It refused to accept the "absolute" nature of the atomic bomb as the single force capable of preventing and stopping communist aggression, but insisted that both nuclear and conventional forces were necessary in the atomic age.

Although the Navy developed its nuclear strategic policy as a consequence of recognizing the Soviet-communist threat to world peace, it was distracted by domestic factors--budget constraints, interservice rivalry, and national strategy--from actually considering the specific nature, motivations and strategy of communism. Therefore, the Navy shared in the overall lack of a coherent and effective national strategy to meet the communist threat.

Before fully recognizing the consequences of nuclear war, the Navy tried to incorporate the atomic bomb into a strategic attack role--principally, as an adjunct to the Air Force's primary role of strategic bombing. Finding itself frustrated by the cancellation of the super carrier, and disillusioned with the consequences of strategic nuclear war, the Navy settled upon a tactical role for nuclear weapons. With the deployment of Polaris, the Navy found itself possessing a strategic deterrent capability, a tactical nuclear capability, as well as a traditional conventional capability. The Navy entered the 1960's believing that the nuclear stalemate had lessened the chances of general nuclear war, while doing little to prevent brush-fire conflicts fermented by communist aggression.

The aircraft carrier and naval aviation were the centerpieces of postwar naval strategy. Aviation was a vital instrument for justifying the Navy's continued viability as a military service. Had the Navy been relegated to ships and submarines there can be little doubt but that the Navy would have been reduced almost to the point of virtual extinction--a fate promoted by air power enthusiasts. Fortunately, common sense prevailed and the Navy was permitted to retain an extensive aviation capability although the Navy as a whole was severely handicapped by budget constraints and interservice rivalry.

Naval aviation provided the medium for integrating nuclear weapons into the Navy's roles and missions. However, despite the adoption of a nuclear delivery capability, the Navy shared the national ambivalence over a nuclear employment

strategy. Not only was there a lack of consensus within the Navy over the proper use of nuclear weapons, but advocates themselves fluctuated on their opinions, changing from one strategy to the next.

However, prior to the deployment of Polaris, it can generally be said that whatever the strategy in vogue, the Navy intended to use nuclear weapons as an adjunct to the employment of traditional forces.[23] Whether attacking a strategic or tactical target, the atomic bomb was meant to complement and support the traditional missions of the Navy--sea control and power projection. As has been repeatedly emphasized, the Navy rejected the atomic bomb as the "absolute" weapon.

The development of a strategic deterrent capability, Polaris, was an ironic maneuver that seemed to guarantee the rest of the Navy continued utility. By serving as the "ultimate" deterrent Polaris removed nuclear war from the list of logical warmaking options of state foreign policy thereby promoting *conventional* war as the only alternative. Conventional war necessarily required naval forces. In that regard, Polaris, by forcing a reliance on conventional war, promoted the employment of traditional naval forces.[24]

The question that remained for the Navy was the role that nuclear weapons might play in limited warfare. Could nuclear weapons be used at sea in a limited fashion without inevitable escalation to general nuclear war? Could the mass of Soviet forces specifically directed at U.S. naval forces be defeated conventionally, or would the use of nuclear weapons be necessary regardless of the consequences? Should the fleet merely reject the *first* use of nuclear weapons and abdicate the final decision to the enemy? These questions remain valid even while they remain essentially unanswered.[25] From the vantage point of the present era, it is clear that the Navy has achieved a significant nuclear capability. What remains unclear is whether the Navy, after four

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[23]Polaris was practically an aberration. If it performed its function as the "ultimate deterrent" successfully, it would never be used. Consequently, it did not fit into the requirement to complement traditional naval forces. Had it been developed as an actual warfighting instrument, then undoubtedly it would have been integrated somehow into a mission that supported other naval forces. One has to wonder about the possible implications of this on the Trident D5 missile. If the missile is accurate enough to give it a warfighting capability, will a move begin to incorporate its capabilities into supporting other naval forces?

[24]The Air Force, who in 1945 vowed the next war would be a nuclear war, by preparing for it, actually ensured the next war would *not* be a nuclear war, but in fact a conventional war--Korea.

[25]The extent to which these questions have recently been answered by the Maritime Strategy is beyond the scope of this study.

decades of debate, has settled on a coherent and enduring nuclear strategy for the employment of that capability.

In confirming the validity of the thesis of this study, one must conclude that the actual development and deployment of a nuclear capability for the Navy was a peripheral issue. It was prompted and carried out by relatively junior officers. The more difficult process and the one that threatened the organizational dismemberment of the Navy was deciding upon a strategy to support and integrate that capability into naval warfare while remaining in harmony with the greater national strategy on nuclear warfare. The process of developing the naval strategy that culminated with the deployment of Polaris was tortuous and frustrating. It plunged the Navy into a lengthy and acrimonious debate with the Air Force over roles and missions, an abortive attempt to change national strategy, and, finally, a close encounter with the prospects of virtual emasculation. In the end, world events--the rise of Soviet imperialism, the Korean War and the demands of nuclear deterrence--brought recognition to the vital role the Navy could play in national defense--even in the nuclear age.

APPENDIX A

DESIGNATION OF COMMANDER OF JOINT TASK FORCE ONE

Directions given by the Joint Chiefs of Staff in the designation letter to Admiral Bundy assigning him as Commander of Joint Task Force One.

1. By direction of the President, you are designated commander of a task force under the Joint Chiefs of Staff for the purpose of conducting tests for the determination of the effects of atomic explosives against naval vessels in order to appraise the strategic implications of atomic bombs including the results on naval design and tactics. You will organize a joint staff with adequate representation of land, sea, and air forces. You will include civilian scientists in your organization.

2. The general requirements of the test will be to determine the effects of atomic explosives against ships selected to give good representation of construction of modern naval and merchant vessels suitably disposed to give a graduation of damage from maximum to minimum. It is desired to include in the tests both air detonation and underwater detonation if the latter is considered feasible. Tests should be so arranged as to take advantage of opportunities to obtain the effects of atomic explosives against ground and air targets and to acquire scientific data of general value if this is practicable.

3. Your are authorized to deal directly with agencies of the War and Navy Department in all matters relating to the preparation for the conduct of these tests: including direct access to the Manhattan District. Usual service lines will be available for administrative and logistical support of forces assigned. . . .

4. The Joint Chiefs of Staff will appoint as a separate agency, directly responsible to them, an evaluation board (committee) for the express purpose of evaluating the results of the test. This board will be available to you for advice during the preparation of the tests. Appropriate sections of your organization will collaborate with this board as necessary, and you will provide it with all necessary facilities it may require to fulfill its functions.

5. You will prepare plans for the test including selection of a suitable site which will permit accomplishment of the test with acceptable risk and minimum hazard. Your plans for the operation and final report will be submitted to the Joint Chiefs of Staff for their approval.

For the Joint Chiefs of Staff:
/a/ A. J. McFarland
Brigadier General, U.S.A.
Secretary

APPENDIX B

NATIONAL SECURITY ACT OF 1947

An excerpt from the Act outlining the Navy's roles and missions

Sec. 206 (a) The term "Department of the Navy" as used in this Act shall be construed to mean the Department of the Navy at the seat of government; the headquarters, United States Marine Corps; the entire operating forces of the United States Navy, including naval aviation, and of the United States Marine Corps, including the reserve components of such forces; all field activities, headquarters, forces, bases, installations, activities, and functions under the control or supervision of the Department of the Navy; and the United States Coast Guard when operating as a part of the navy pursuant to law.

(b) In general the United States Navy, within the Department of the Navy, shall include naval combat and services forces and such aviation as may be organic therein. It shall be organized, trained, and equipped primarily for prompt and sustained combat incident to operations at sea. It shall be responsible for the preparation of naval forces necessary for the effective prosecution of war except as otherwise assigned, and, in accordance with integrated joint mobilization plans, for the expansion of the peacetime components of the Navy to meet the needs of war.

All naval aviation shall be integrated with the naval service as part thereof within the Department of the Navy. Naval aviation shall consist of combat and service and training forces, and shall include land-based naval aviation, air transport essential for naval operations, all air weapons and air techniques involved in the operations and activities of the United Stated Navy, and the entire remainder of the aeronautical organization of the United States Navy, together with the personnel necessary therefor.

The Navy shall be generally responsible for naval reconnaissance, anti-submarine warfare, and protection of shipping.

The Navy shall develop aircraft, weapons, tactics, technique, organization and equipment of naval combat and service elements; matters of joint concern as to these functions shall be coordinated between the Army, the Air Force, and the Navy.

(c) The United States Marine Corps, within the Department of the Navy, shall include land combat and service forces and such aviation as may be organic therein. The Marine Corps shall be organized, trained, and equipped to provide fleet marine forces of combined arms, together with supporting air components, for service with the fleet in the seizure or defense of advanced naval bases and for the conduct of such land operations as may be essential to the prosecution of a naval campaign. It shall be the duty of the Marine Corps to develop, in coordination with the ARmy and the Air Force, those phases of amphibious operations which pertain to the tactics, technique, and equipment employed by landing forces. In addition, the Marine Corps shall provide detachments and organizations for service on armed vessels of the navy, shall provide security detachments for the protection of naval property at naval stations and bases, and shall perform such other duties as the President may direct: Provided, that such additional duties shall not detract from or interfere with the operations for which the Marine Corps is primarily organized. The Marine Corps shall be responsible, in accordance with integrated join mobilization plans, for the expansion of peacetime components of the Marine Corp to meet the needs of war.

U.S. Congress, 80th Congress, 1st Session, Public Law 252, Chapter 343, p. 8.

APPENDIX C

EXECUTIVE ORDER 9877

Excerpt defining the functions of the Navy.

The United States Navy includes naval combat and service forces, naval aviation, and the United States Marine Corps. It is organized, trained and equipped primarily for prompt and sustained combat at sea. The Navy is responsible for the preparation of naval forces necessary for the effective prosecution of war, and in accordance with integrated joint mobilization plans, for the expansion of the peacetime components of the Navy to meet the needs of war.

The specific functions of the United States Navy are: 1. To organize, train and equip naval forces for:

a. Operations at sea, including joint operations.

b. The control of vital sea areas, the protection of vital sea lanes, and the suppresssion of enemy sea commerce.

c. The support of occupation forces as required.

d. The seizure of minor enemy shore positions capable of reduction by such landing forces as may be comprised within the fleet organization.

e. Naval reconnaissance, anti-submarine warfare, and protection of shipping. The air aspects of those functions shall be coordinated with the Air Force, including the development and procurement of aircraft, and air installations located on shore, and use shall be made of Air Force personnel, equipment and facilities in all cases where economy and effectiveness will thereby be increased. Subject to the above provision, the Navy will not be restricted as to types of aircraft maintained and operated for these purposes.

f. The air transport necessary for essential internal and for air transport over routes of sole interest to naval forces where the requirements cannot be met by normal air transport facilities.

2. To develop weapons, tactics, technique, organization and equipment of naval combat and service elements, coordinating with the Army and the Air Force in all aspects of joint concern, including those which pertain to amphibious operations.

3. To provide, as directed by proper authority, such missions and detachments for service in foreign countries as may be required to support the national policies and interests of the United States.

4. To maintain the U.S. Marine Corps whose specific functions are:

a. To provide Marine Forces together with supporting air components, for service with the Fleet in the seizure or defense of advanced naval bases and for the conduct of limited land operations in connection therewith.

b. To develop, in coordination with the Army and the Air Force those phases of amphibious operations which pertain to the tactics, technique and equipment employed by landing forces.

c. To provide detachments and organization for service on armed vessels of the Navy.

d. To provide security detachments for protection of naval property at naval stations and bases.

e. To provide, as directed by proper authority, such missions and detachments for service in foreign countries as may be required to support the national policies and inaterests of the United States.

5. To assist the Army and the Air Force in the accomplishment of their missions, including the provision of common services and supplies as determined lby proper authority.

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